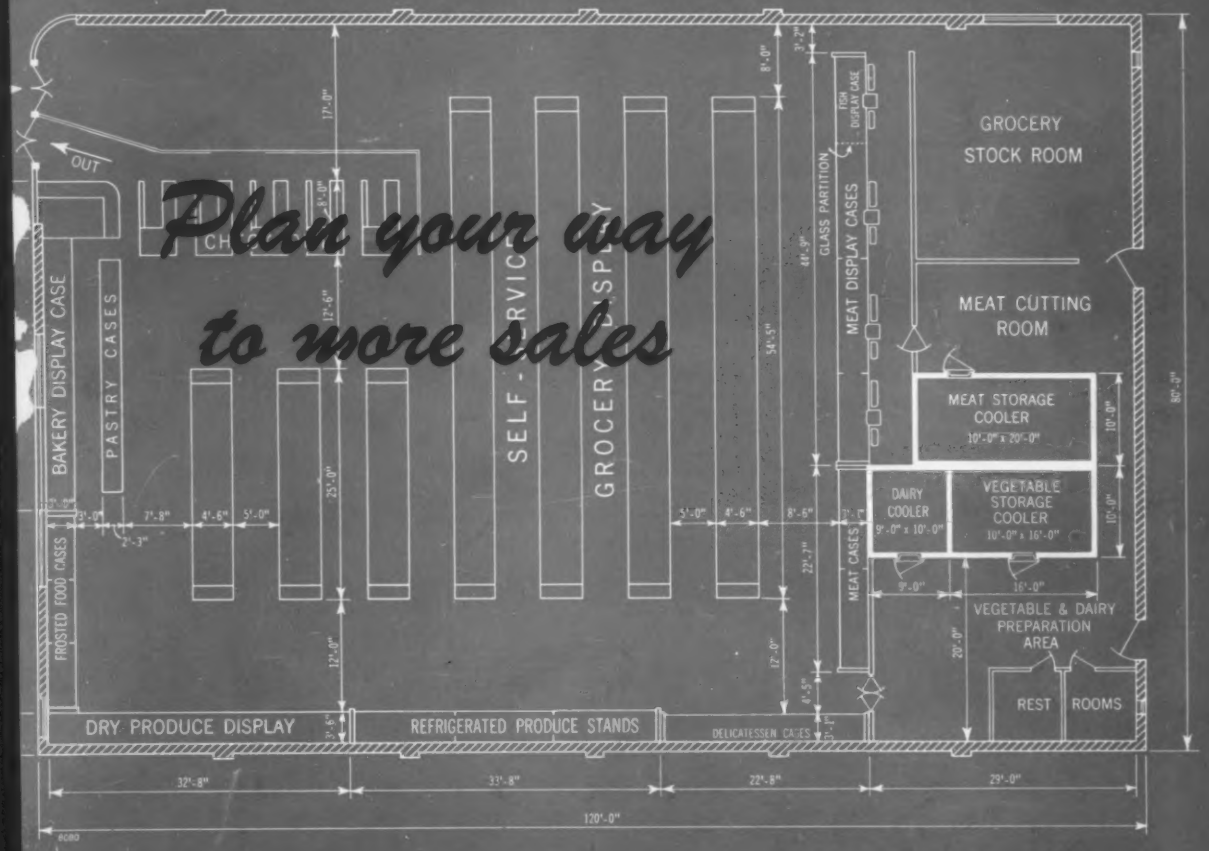
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MARCH, 1949

THE Refrigeration INDUSTRY

AIR CONDITIONING EQUIPMENT

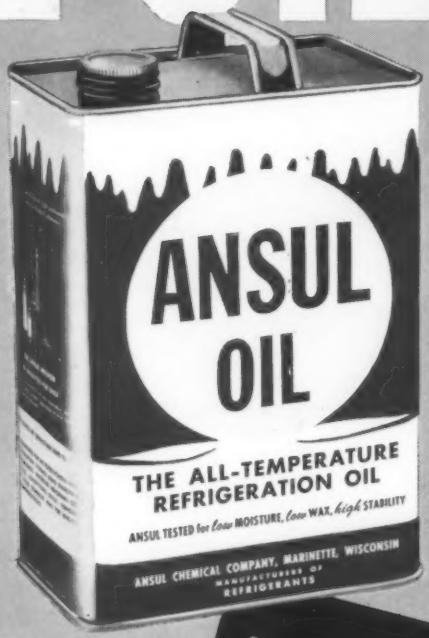
MERCHANDISING • INSTALLATION • MAINTENANCE



DON'T MISS: { **"7000 SILENT SALESMEN"... which tells how one dealer of commercial refrigeration equipment promotes its business by mailing a monthly house organ to its customers and prospects**

ANSUL OIL

THE ALL-TEMPERATURE REFRIGERATION OIL



Recommended for air conditioning and refrigeration systems using standard refrigerants.

ANSUL OIL is an ALL-Temperature Refrigeration Oil which conforms to the rigid wax-free specifications established by Research. It will not separate wax when mixed with a refrigerant (under specified conditions) and subjected to temperatures as low as SEVENTY DEGREES BELOW ZERO (Fahrenheit).

ANSUL OIL has been machine tested for lubrication and wax-free characteristics in both high and low temperature installations. It is absolutely uniform . . . maintains high stability and has a low oxidation rate. It has proved suitable for ALL refrigerating systems using any of the standard refrigerants.

Ansul Research was first to recognize the problems resulting from low-temperature wax separation in oil-refrigerant mixtures. It realized the critical need for an oil which would not only lubricate and protect moving parts but would also eliminate the persistent troubles which were traced to wax-separation from oil-refrigerant mixtures.

LIQUID Sulfur Dioxide ANSUL® LIQUID Methyl Chloride ANSUL®

*REG. U. S. PAT. OFF.

ANSUL TESTED FOR
- LOW MOISTURE
- LOW WAX
- HIGH STABILITY

ANSUL OIL — the all-Temperature Refrigeration Oil — is sold by leading refrigeration wholesalers everywhere. Get it where you buy your ANSUL sulfur dioxide and ANSUL methyl chloride.

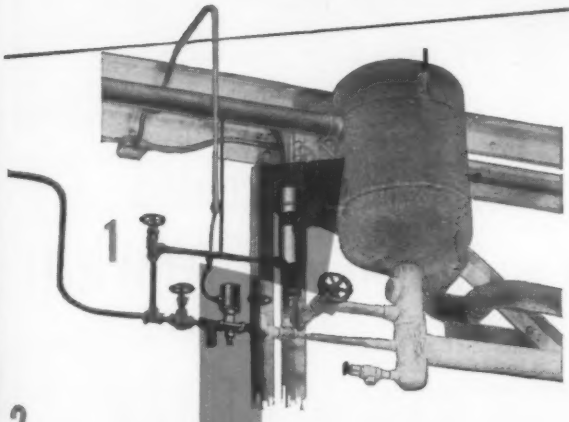
ANSUL CHEMICAL COMPANY
REFRIGERATION DIVISION, MARINETTE, WISCONSIN
ANSUL SULFUR DIOXIDE, ANSUL METHYL CHLORIDE, ANSUL OIL, KINETIC'S "FREONS"

the world's largest refrigerated warehouse

equipped with ALCO VALVES !



The Alford Warehouse, Dallas; 7,500,000 cubic feet of cold storage, and 8,000,000 cubic feet of air conditioned storage.





A wide range of cold storage temperatures will be efficiently handled by:

- **M8 SOLENOID VALVES** controlled by
- **J5 FLOAT SWITCHES** on liquid lines;
- **EPR 600 Series EVAPORATOR PRESSURE REGULATORS** controlled by
- **D922 TEMPERATURE PILOTS** on suction lines.

However large or small, simple or complex your requirements may be . . . you'll find the right answer in ALCO's *complete line* of refrigerant controls. Your ALCO wholesaler will be glad to advise you.

1 ALCO J5 Float Switch and M8 Solenoid Valve controlling flow of liquid ammonia into surge drum.

2 Typical cluster of ceiling blower coils with ALCO Controls on both liquid and suction lines.

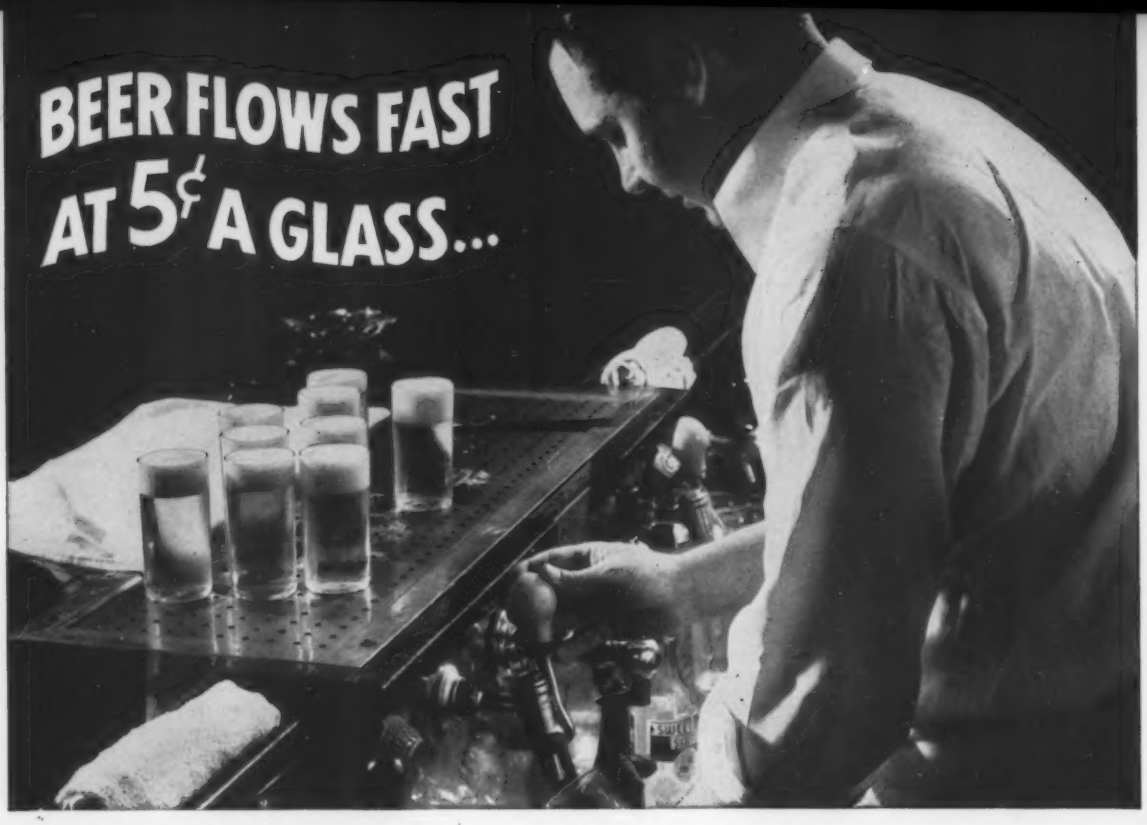
Designers and Manufacturers of Thermostatic Expansion Valves; Evaporator Pressure Regulators; Solenoid Valves; Float Valves; Float Switches.

ALCO VALVE CO.

843 KINGSLAND AVE. • ST. LOUIS 5, MO.

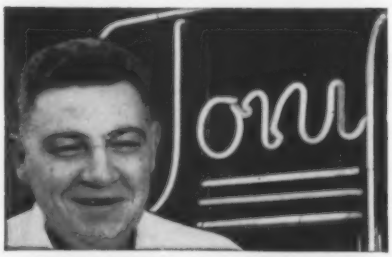
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BEER FLOWS FAST AT 5¢ A GLASS...





TED INMAN, popular and busy bartender at Tony's Westown Bar, 7645 Fenkell, Detroit, Michigan, says, "Since we started to sell nickel beer our volume has jumped plenty, but Temprite has never once let us down."



TONY PALOMBO, who opened his neighborhood tavern in 1935 with a Temprite Cooler, says, "When our customers start crowding the bar, our good old Temprite keeps just as cool as a cucumber. Every glass of beer is perfect, right down to the bottom of the barrel".

. . . yet every glass is cooled to perfection with TEMPRITE

One of the most delicate of all beverages is beer. Careful handling from the brewer's kettle to the tavern tap is a must.

If beer is too warm, the foam runs wild and profits run down the drain.

If beer is too cold, the head is too thin and profits run down the customer.

Beer temperature must be right . . . from the beginning to the end of the keg . . . and that is why Temprite has long been standard equipment at the busiest bars. For no matter how heavy the demand, no matter how frequently the tap is opened during rush periods, Temprite-cooled beer is *right*. Every glass is cooled to perfection. Every glass has brilliancy, flavor and body. Every glass has a rich, creamy collar of the right depth.

It is for reasons like those above that refrigeration men everywhere are pushing trouble-free Temprite beer coolers for steady, substantial profits.

Drop us a card today for details.



8 TEMPRITE MODELS feature easy installation, all stainless steel coils.

Heavy duty model above will cool 2 kinds of beer plus soda and plain water at the same time.

TEMPRITE PRODUCTS CORP.

ESTABLISHED 1929

CABINET WATER COOLERS · COOLER CARBONATORS · COMMERCIAL WATER COOLERS · SODA FOUNTAIN COOLERS · TEMPERATURE CONTROL VALVES · DRAUGHT BEER COOLERS · OIL SEPARATORS · ACCUMULATOR HEAT EXCHANGERS · INDUSTRIAL WATER COOLERS · EQUALIZER TANKS

Originators of Instantaneous 80° 40° *Liquid Cooling Devices*

41 PIQUETTE AVENUE DETROIT 2, MICHIGAN

MARCH, 1949

VOLUME 6, NO. 3

❖

THIS MAGAZINE has no official affiliation with ANY group, society or association.

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THE Refrigeration INDUSTRY

THE COVER . . . Store planning has developed into such an integral part of the business of merchandising commercial refrigeration fixtures that no "heads up" dealer or distributor can afford to ignore it. Comprehensive layouts such as this pave the way for more profitable commercial refrigeration sales. (Store plan courtesy of C. V. Hill & Co., Inc.)

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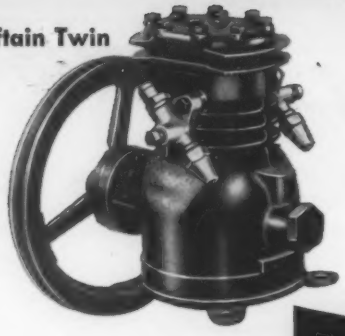
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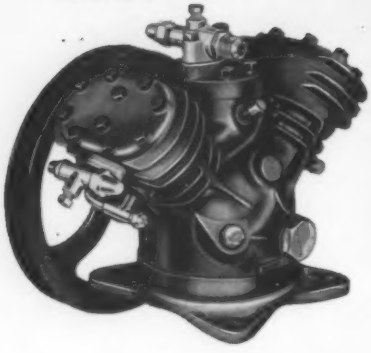
Chieftain Twin





Chieftain Single

Chieftain "4"



First Choice

FOR REPLACEMENT INSTALLATIONS!

CHIEFTAIN CONVENTIONAL COMPRESSORS

Year in and year out, smooth, quiet, dependable Chieftain Compressors have been first choice of refrigeration service men for replacement installations. First choice of manufacturers, too, for assembly into their own equipment and products. There are reasons . . . *good reasons* . . . for this unparalleled acceptance throughout the industry. For, over the years, Chieftain has been first to pioneer many important advances in compressor design and manufacture. Has led the field in introducing ☆ mass precision machining methods ☆ forced feed lubrication for reciprocating parts ☆ automatic cylinder lubrication ☆ triple inspection and careful selective fitting of all parts. These are just a few of the many outstanding Chieftain features designed to give you the maximum in long-life, trouble-free performance at a minimum first cost. A few of the many good reasons, too, for you to standardize in Chieftain for all your replacement installations.

Single, twin, and four cylinder models available to meet the requirements of a wide range of applications. Complete, convenient jobber stocks maintained in principal cities coast-to-coast to assure prompt, efficient delivery. See your local jobber today . . . or write direct for the name of your nearest source of Chieftain Conventional Compressors.

Chieftain

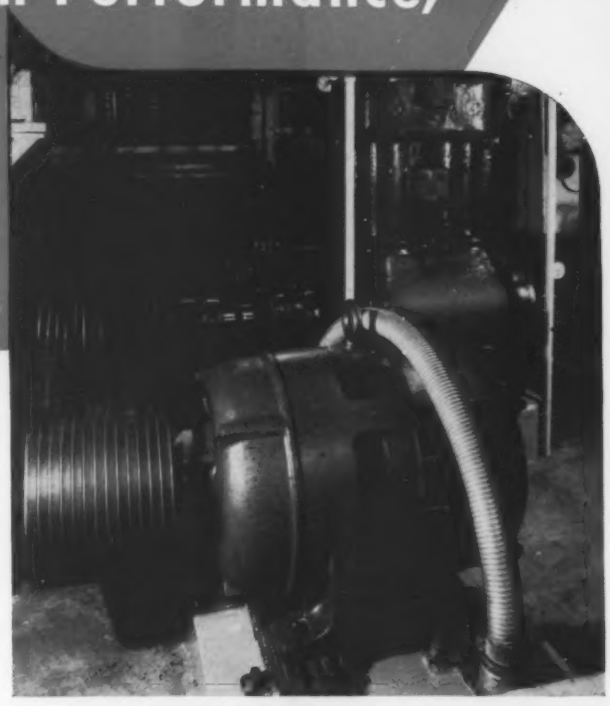
TECUMSEH PRODUCTS COMPANY

Tecumseh, Michigan

World's largest independent producer of Compressors and Condensing Units

The Right Century Motor Assures Maximum Performance, Long Service Life

For Every Air Heating, Cooling and Circulating Need



100 HP, Century Type SCH, Squirrel Cage, 3 phase motor driving a refrigeration compressor for temperature control.

Century's many types and kinds of motors completely blanket the power requirements for the various kinds of equipment used in air conditioning installations.

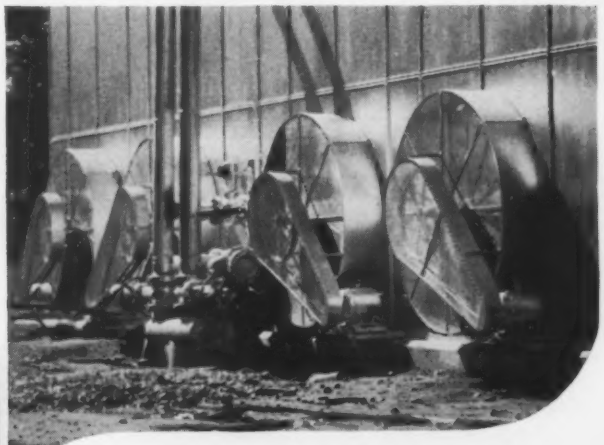
Century motors are available in open rated drip proof, splash proof, totally enclosed fan cooled and explosion-proof frames to meet the needs of any kind of surrounding atmosphere, whether indoors or outdoors on a cooling tower.

Century builds a complete line of alternating and direct current electric motors in a wide range of kinds and types, in sizes from 1/6 to 400 horsepower.

Specify Century motors for all of your electric power requirements.

Popular types and standard ratings are generally available from factory and branch office stocks.





Four 5 HP, Century Splash Proof motors driving fans on a cooling tower to dissipate heat.

-615

Century C MOTORS

CENTURY ELECTRIC COMPANY • 1806 Pine St., St. Louis 3, Mo.

Offices and Stock Points in Principal Cities

For a neater job, a



Better Profit!

NIBCO

Fittings Wrot from Tubes

The Nibco line includes Tees, Elbows, Couplings, Return Bends, Adapters, Unions — everything you need to go with the tube.

Send for Catalog F! A new manual of technical and selling information to aid in specifying and ordering Nibco fittings and valves.

Formed without seam or weld, from the same tubes with which they are used, Nibco Wrot Fittings have a smooth interior finish which insures a perfect joint. Light in weight because no excess metal is needed for cutting threads. Precision-made to fit, they speed the job and make a quality installation with economical light weight copper tubes. It will pay you to standardize on the complete line of Nibco Wrot fittings.

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314 Plum Street, Elkhart, Indiana

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314 PLUM STREET, ELKHART, INDIANA

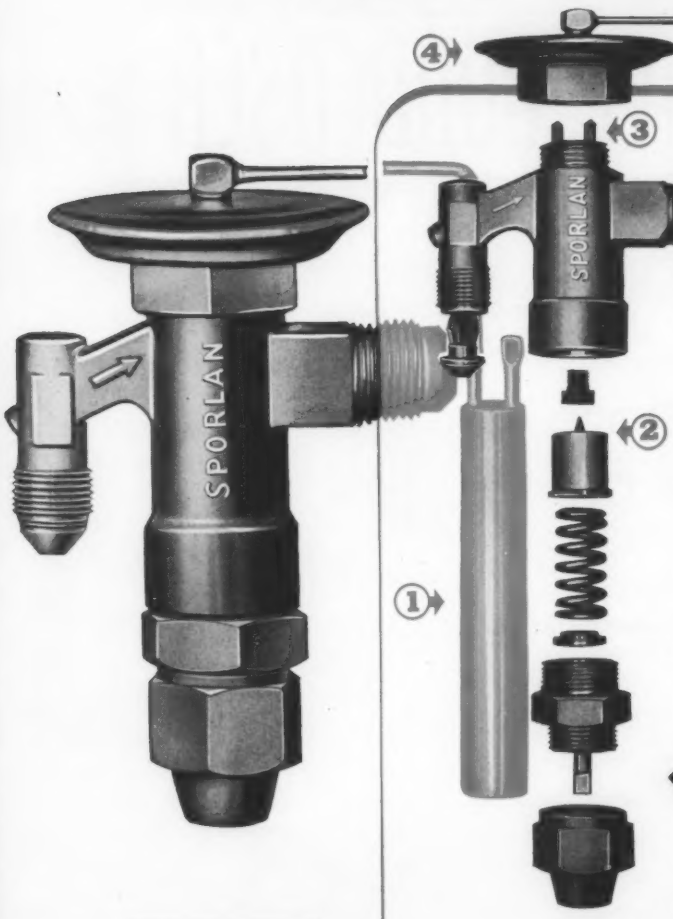
QUALITY VALVES AND FITTINGS SINCE 1904

When you install a

SPORLAN Type G VALVE

you get

Peak Performance on All Jobs... under All Conditions!



and here is why

1 SPORLAN SELECTIVE C or Z CHARGE

C charge for suction temperatures **above** zero.
Z charge for suction temperatures **below** zero.
Only Sporlan can offer you Selective Charges.

2 NEW PIN CARRIER

The new pin carrier is designed to minimize the effect of dirt and moisture and assures perfect operation of the valve under all conditions.

3 TRIANGULAR PUSH RODS

Effectively reduce friction and chance of moisture freezing rods in guides.

4 STAINLESS STEEL DIAPHRAGM

Atomic hydrogen welded in steel housing for greater strength and trouble free performance.

5 EASY ACCESSIBILITY

The Sporlan Type G Thermostatic Expansion Valve can be quickly and easily taken apart for inspection and cleaning. New reduced over-all length permits installing in much smaller space.

Get Peak Performance

on all your commercial refrigeration installations... insist upon Sporlan Type G Thermostatic Expansion valves with Selective Charges when ordering from your wholesaler.

SPORLAN

SPORLAN VALVE COMPANY

7525 SUSSEX AVE., ST. LOUIS 17, MISSOURI

The First Really New

EVAPORATIVE CONDENSER

by KRAMER

Opens Many Opportunities in the Small Tonnage Field

Featuring . . .

- Small Capacities—2 to 8 tons
- Single or Multi-Circuits
- Stainless Steel Sump
- Extra Large Water Delivery
- Packless & Greaseless Pump
- Bare Tube Coils
- No Nozzles
- No Belts
- Low Cost
- For Freon, Methyl and Ammonia

WRITE FOR BULLETIN R162B

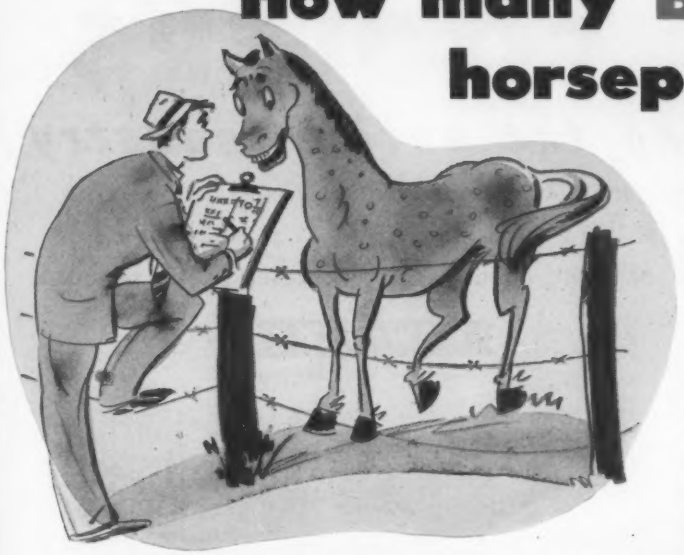


KRAMER TRENTON CO.

Trenton 5, N. J.

BRUNNER SINCE 1906 **REFRIGERATION** helps you serve better

How many BTU's per horsepower hour?

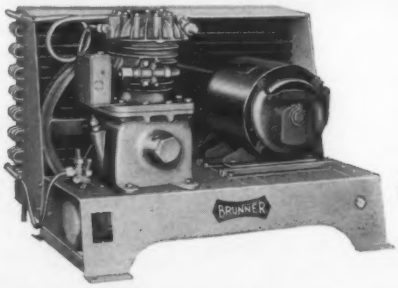


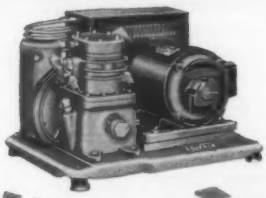
Refrigerating equipment installation engineers know that the refrigerating capacity of a condensing unit is measured in terms of BTU's produced per hour per horsepower. How many BTU's in a horsepower hour depends entirely upon compressor design and operating efficiency. Cost of BTU production is the whole cost of refrigeration.

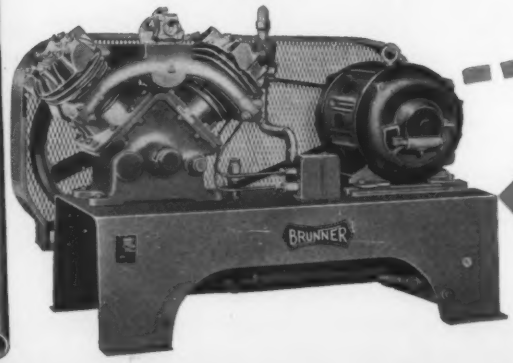
Obviously, if a required refrigeration capacity can be produced with *less* horsepower, *less* running time, *less* wear in the unit, you can see where worthwhile installation economies can be effected plus a greater customer satisfaction.

BRUNNER MANUFACTURING CO.
UTICA 1, NEW YORK, U.S.A.

● **IN YOUR BUSINESS** it's well to know all the answers. It will be time well spent to let a Brunner factory representative show you the many reasons why Brunner compressors deliver such a high and dependable efficiency. Just send your name and address.







REFRIGERATION CONDENSING UNITS
...a size and type for every purpose

BRUNNER SINCE 1906

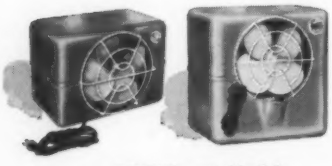
AIR AND WATER COOLED MODELS
¼ HP. TO 30 HP.

AGAIN IT'S SNO-BREZE AIR COOLERS

leading the entire industry!

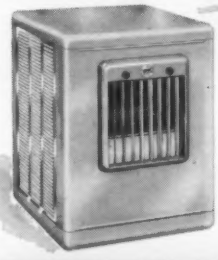
40th ANNIVERSARY 1909-1949

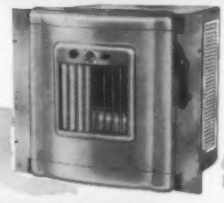
Celebrating their 40th Anniversary with 1949 Models perfected to the limit. Offering the American public the most complete, efficient, economical air cooler line in history.

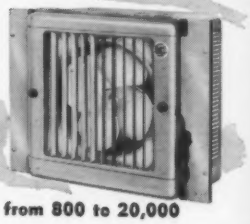


17 Different Models

NEW FACES





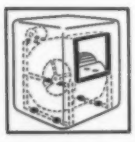


Sizes from 800 to 20,000

NEW INNOVATIONS



MOTOR: Make "squeeze test" — See shock proof mounting perfection. Gives superior quiet performance, long life operation.



BLOWER AND FAN ASSEMBLIES are completely rubber cushioned to prevent vibration noise and needless wear.



EXCLUSIVE BRONZE WATER PRESSURE REGULATOR is automatic, cleanable, foolproof — assures equal water flow to cooling pads. (Pat. pend.)



BLOWER WHEELS AND FANS are oversized and dynamically, statically balanced to give greater cool air output at less power — a big economy factor.



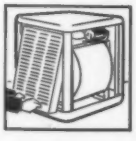
EXCLUSIVE "RAINDROP" WATER DISTRIBUTION SYSTEM is clog-proof, rustproof, adjustable — assures thorough water coverage of pads.



BAKELITE ELECTRIC SWITCH PANEL is centrally located for quick easy pump installation — no soldering — has underwriters approval.



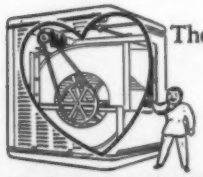
CABINET: Heav gauge galvanized stee rubber insulated Drawn front is 1 times stronger than o dinary types. Has hand some baked enamel fin ish. (Pat. pend.)



ADVANCED ENGI NEERING AND DE SIGN make movin parts easily accessibl for servicing, give ex clusive eye appeal.



PRICES: SNO-BREZ offers you these *all im portant* "heart of coo er" features *at no grea er cost* than ordinar makes!



"The heart of a cooler test" will prove SNO-BREZE by far the best!

These superior advantages developed through 40 years of matchless research and engineerin

MR. DISTRIBUTOR! MR. DEALER! Your Customers want cooling comfort at its best — Sell them SNO-BREZE — BEST by their actual Test.

Palmer MANUFACTURING CORP., PHOENIX, ARIZONA

JAMISON-BUILT

COOLER and FREEZER DOORS

to meet every need



WALK-IN DOOR

The door that has the widest range of use in all types of moderately refrigerated spaces.



DOUBLE DOOR

Used where larger doorways are required—loading docks, entrances off elevator shafts, etc. No obstructing center post—entire clear opening is available when both doors are open.



REACH-IN DOOR

Used in small wall openings where type of operation does not require a Walk-In Door.



TRACK DOOR

Indispensable where products are handled in and out of refrigerated spaces on trolley rails, such as in packing houses, banana rooms, markets, etc.



VESTIBULE DOOR

A highly effective combination of a Cooler or Freezer Door and a double-acting Auto Close Door. In busy doorways operations may require the Cooler or Freezer Door to remain open for extended periods. Auto Close Door automatically closes after passage through them, reducing refrigeration loss to the minimum.

The doors illustrated are some examples of Jamison-Built Standard Cooler and Freezer Doors for moderately low temperatures, including exclusively Jamison features. All are infitting doors with Cooler-seal gaskets and Jamison hardware—the Wedge-tight Fastener and Adjustoflex Spring Hinge.

Standard models of Jamison-Built Doors are available in a wide range of sizes. Should you require special types or sizes, we can build them to any specification. Our new condensed catalog, No. 175, packed with helpful information on cold storage doors is now available. Send for your copy today.

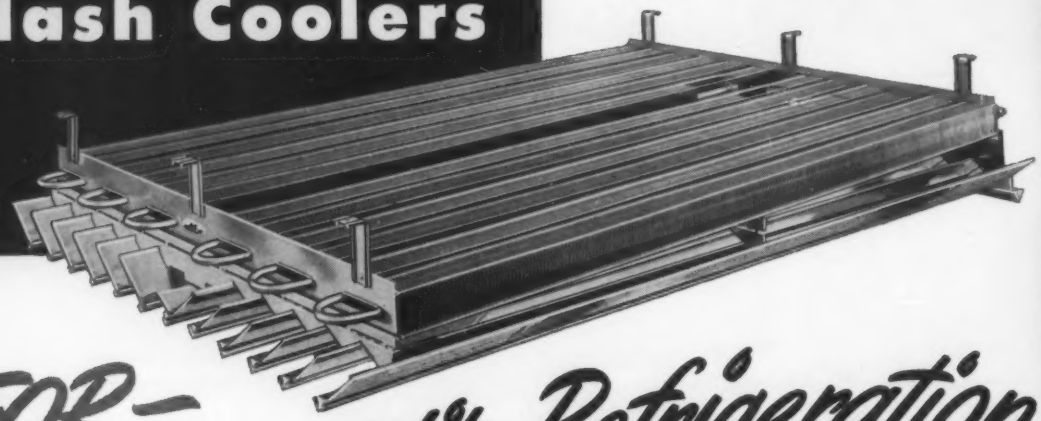
JAMISON COLD STORAGE DOOR CO.
HAGERSTOWN, MD.

The Oldest and Largest Builder of Cold Storage Doors in the World

JAMISON
HAGERSTOWN, MARYLAND, U. S. A.

PEERLESS
Flash Coolers

● *For superior performance specify all these PEERLESS products: Flash Plates, Flash Coolers, Dome and Unit Coolers, Ice Cube Makers, Fin Coils, Off Center Coils, Expansion Valves and Capacity Boosters. Write for Details.*



FOR— High Humidity Refrigeration

● The wide shallow coils of Peerless Flash Coolers insure efficiency in the refrigeration of cut meats, flowers, and all products which must be guarded against dehydration. Large volumes of cooled air are delivered with high relative humidity, making Peerless Flash Coolers ideal for cold storage boxes, walk-in and reach-in refrigerators, etc. Retailers, wholesalers, packers and other users obtain maximum product protection with these easily installed, overhead and out-of-the-way coolers. Copper tubing for Methyl Chloride, Freon or Sulphur Dioxide; aluminum for Ammonia. Standard and special designs.

NOTE THESE ADVANTAGES

● Higher operating back pressure with low flat coils provides higher compressor capacity. More efficient, with reduced operating cost!

● Refrigerant circuit is continuous copper tube with aluminum fins—non-soldered return bends. No Joints!—No Leaks!

● Internal Rifling swirls refrigerant over entire interior surface of tubing, insuring 100% internal wetted surface and 100% coil efficiency.

● Open-louvred drip pan permits free circulation of air through coil surface. Large volumes of cool tempered air flow downward by gravity over stored products.

● A Flash Cooler occupies space not to exceed 16" from ceiling. Quickly, easily installed by bolting convenient hangers to ceiling.

SOLD THROUGH LEADING REFRIGERATION SUPPLY WHOLESALERS

PEERLESS of AMERICA, INC.
2901 Lawrence Ave., Chicago 25, Illinois, U. S. A.

Concentrate on the *Cream* of the Market

THE QUICK PROFIT RANGE in Air Conditioning

1½ Ton to *10 Ton*

PACKAGED UNITS

TYPHOON self-contained, free-standing units require no duct work — installation is quick, easy — you can do more jobs per year — your dollars turn over faster.



Tie up with

TYPHOON

Backed by a sales-winning program of dealer promotion and sales-training. Nationally advertised.

Plus a line of: EVAPORATIVE CONDENSERS—3-5-7 and 10-ton sizes. COMPRESSORS—½-ton to 50-ton units. LOW SIDE UNITS— 3-5-7-10-Ton.

TYPHOON'S 40th Anniversary 1909-1949

TYPHOON AIR CONDITIONING CO., INC.

794 Union Street Brooklyn 15, N. Y.



TRY THIS

"RATTLE-RATTLE" TEST

BEFORE YOU BUY A DRIER

Shake the Unit Back and Forth—If the Dehydrant is Loosely Packed and Rattles, Powdering May Have Taken Place.

A HENRY *Abso-Dry** DRIER WILL NOT RATTLE

THE DEHYDRANT IS UNDER SPRING PRESSURE

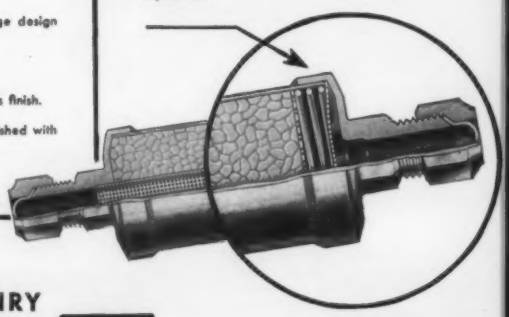
The dehydrant is tightly packed in all Henry Driers and the compression spring is used in non-refillable types having a dehydrant capacity of 6 cubic inches or more. There is no "rattle rattle" because of an exclusive patented compression spring design which holds dehydrant particles closely together, minimizing self-abrasion. Installed in a refrigerant system, the spring also compensates for volume changes in the dehydrant and prevents refrigerant by-passing.



OTHER FEATURES OF HENRY ABSO-DRY DRIERS:

1. After all traces of free moisture are removed, a Henry Drier with flare connections is pressure sealed with dehydrated air. Loosening of a flare nut produces a hiss, proving that the drier is in factory fresh condition.
2. Patented dispersion tube exposes the entire volume of silica-gel to penetration by refrigerant.
3. 30 x 250 mesh monel outlet filter will not collapse under any ordinary system pressure.
4. Forged brass end cap construction with integral connections. Wide wrench flats.
5. Patented 8-Bolt distortion-proof flange design in cartridge type driers.
6. Silver brazed construction.
7. Polished and lacquered natural brass finish.
8. Driers with flare end connections furnished with flare nuts and seal bonnets.

LARGE VIEW shows patented compression spring which maintains constant pressure on the entire volume of dehydrant.



MAKE THE "RATTLE-RATTLE" TEST

AND YOU, TOO, WILL STANDARDIZE ON HENRY

SOLD BY LEADING WHOLESALERS

HENRY VALVE CO.

Melrose Park, Ill. (Chicago Suburb) • Cable: HEVALCO Chicago.

* Registered U. S. Pat. Off.

HENRY VALVE CO. CONTROLLING FLOW

Valves, Driers, Strainers, Control Devices and Accessories for Refrigeration and Air Conditioning and Industrial Applications.

There's* 40% PROFIT FOR YOU in HARDWARE REPLACEMENT



***PLUS YOUR REGULAR TIME AND SERVICE CHARGE**

For a complete, satisfactory service job, ***check the hardware*** as well as the compressor. The new Grand Rapids Brass price list guarantees you 40% on replacement hardware sales, plus regular service charges. You'll make your commercial customers happy too, — because new hardware can bring new efficiency, new good looks, new operating economy to their old display cabinets, back bars, and coolers.

Earn up to $24.64 on new hardware for this cabinet

A single cabinet like this runs into real money for you! Let's figure your hardware replacement profits on this one job. There are hundreds of opportunities like this in your community!

Hardware Needed	Retail Price
8 Locks No. 4722	$24.00
8 Strikes No. 3843	8.00
16 Hinges No. 15345	29.60
Hardware costs customer	$61.60
Your cost (less 40%)	36.96
Your PROFIT on Hardware	$24.64

Plus **REGULAR INSTALLATION CHARGE**





FREE — Ask Your Jobber

This manual tells how to sell and install replacement hardware. Full directions and detail drawings. If your jobber can't supply, write direct and give us his name.

PREFERRED for NEW EQUIPMENT . . . PREFERRED FOR REPLACEMENT, TOO

Now you can give your service customers the identical lock preferred by leading makers for their best commercial cabinets. Available in a full range of sizes . . . all providing the exclusive, positive "living action" principle engineered by Grand Rapids Brass for lifetime performance. Equally handsome and sturdy are hinges by Grand Rapids Brass . . . made with self-lubricating Oilite bronze bearings and stainless steel pins. Get them from your jobber . . . he can supply everything you need, from massive walk-in hardware to the smaller sizes. Demand and get the genuine.

Grand Rapids Brass Company

Division of **CRAMPTON MANUFACTURING COMPANY**

Grand Rapids 4, Michigan

How much does a McCray Koldflo display case cost?

Sounds like an easy question to answer. But if it comes from one of your customers, you may need more than price figures to answer it.

For instance, McCray's industry-wide leadership has been built by keeping one step ahead of competition with service and self-service display cases that offer the newest engineering developments in their field. Naturally, more advanced equipment of this kind enjoys greater value and gives new meaning to cost.

Quality, too, plays an important part in cost. And for 59 years in the commercial refrigeration field, McCray has maintained its reputation for quality workmanship.

Finally, pre-selling your customers through their trade publications helps to make your job easier. Backed by detailed information from you, this advertising pays off in profitable sales. Talk facts . . . and cost will take care of itself.

Clip and mail the coupon below on how to make more profits in the commercial refrigeration field with McCray Koldflo.

THE BEST IN LOW-COST REFRIGERATION

McCray
KOLDFLO



McCray's newest Multiple-Deck, Self-Service Dairy Display Case—each 6-foot section gives 30% more product on display.



McCray's newest Double-Duty, Self-Service, Continuous Display Case—10-foot sections that link together...engineered to cut store overhead costs.

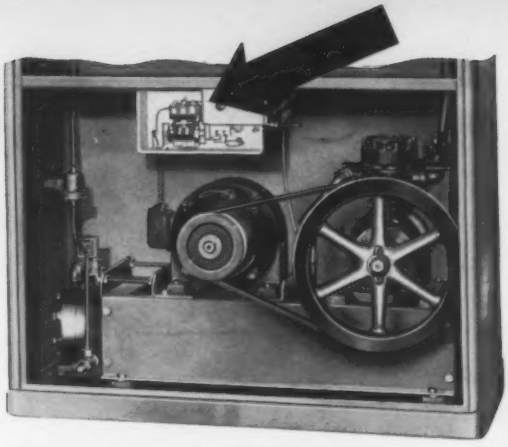
McCray Refrigerator Company, Box A, 996 McCray Court, Kendallville, Indiana.

Please send me information on the complete line of McCray Koldflo commercial refrigerator equipment.

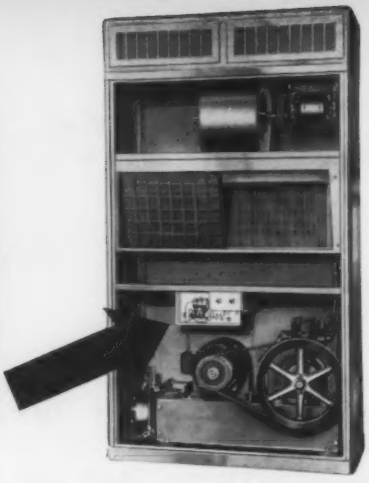
NAME_____

ADDRESS_____

CITY_____ ZONE____ STATE_____



Close-up of compressor unit: Bulletin 709 solenoid starter in cabinet with Bulletin 836 high pressure cutout and Bulletin 837 temperature control.



Full view: Trane air-conditioner showing A-B control unit with manual and automatic controls.

TRANE AIR-CONDITIONERS

equipped with

Trouble-Free Motor Controls



Bulletin 709, size 1 solenoid starter. Compact, simple, and trouble free. Ample wiring space.

ALLEN-BRADLEY STARTERS ARE TROUBLE FREE. Only one moving part. No pivots, pins, or bearings to corrode or stick . . . no jumpers to break. You install them . . . and forget them!

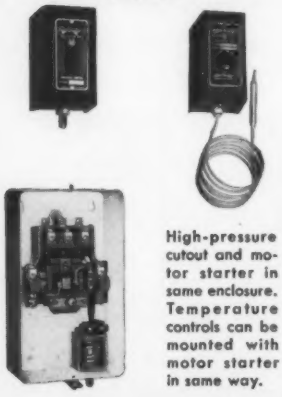
NO CONTACT MAINTENANCE. Allen-Bradley patented silver alloy contacts never need cleaning, filing, or dressing.

DEPENDABLE OVERLOAD RELAYS. Allen-Bradley thermal relays are accurate and dependable even after long service.

The A-B trademark stands for millions of trouble-free operations. Allen-Bradley Co., 1340 S. Second St., Milwaukee 4, Wisconsin.

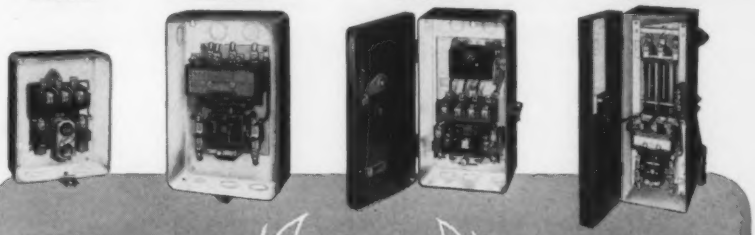
ALLEN-BRADLEY AIR-CONDITIONING AND REFRIGERATION CONTROLS

PRESSURE AND TEMPERATURE CONTROLS



High-pressure cutout and motor starter in same enclosure. Temperature controls can be mounted with motor starter in same way.

MANUAL STARTER | **AUTOMATIC STARTER** | **COMBINATION STARTER** | **HEAVY COMPRESSION STARTER**



ALLEN-BRADLEY

SOLENOID MOTOR CONTROL

QUALITY

NOW you can put NEW profits AND IN YOUR CUSTOMERS'

IF YOU CAN QUALIFY AS A FRANCHISED DEALER ON ONE OR MORE York PRODUCTS

There's a twofold profit story for franchised dealers of York equipment—a full margin of profit for the dealer, and greater profit for the purchaser.

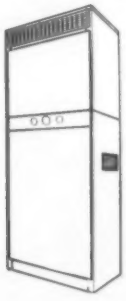
That's because each piece of York equipment is designed and built to *bring in more business, or cut costs for the purchaser.*

York dealers are backed by a line of mechanical cooling equipment unequalled in the field: air conditioning of all types . . . FlakIce Machines . . . Automatic Ice Makers . . . Frozen Food Cabinets . . . cooling and condensing units. Nearly every business is a prospect for one or more York products, and every York product offers a saving to the user.

In good times or bad, YORK Refrigeration and Air Conditioning SELLS . . . because it makes a profit for the user as well as the dealer who takes the order. It's time for you to step into the picture. Investigate the opportunity a York dealer franchise offers you, whether it's on Room Air Conditioners, Ice Makers, Frozen Food Cabinets, or on the full profit making York line.

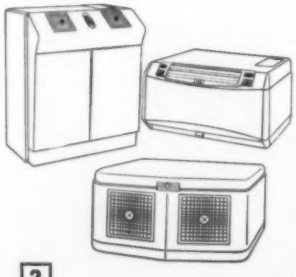
York refrigeration air conditioning *Refrigeration and Air Conditioning*

YORK PRESENTS AN OUTSTANDING NEW ROOM AIR CONDITIONER PLUS A SENSATIONAL ICE CUBE MAKER TO ROUND-OUT THE



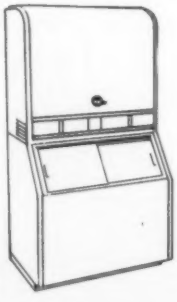
1

Yorkaire Conditioners—For retail stores, restaurants and offices—are self-contained, quickly installed, occupy only 21 x 36 inches of floor space. Easily moved if owner changes location.



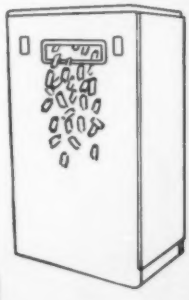
2

Yorkaire Room Conditioners—Perform all the functions of true air conditioning. For home or office—York quality at a new low price that all your prospects can afford.



3

York Automatic Ice Cube Maker—Requiring very little floor space, it produces an ever ready supply of sanitary crystal-clear ice cubes for hotels, clubs and restaurants at rate of 8,000 per day.



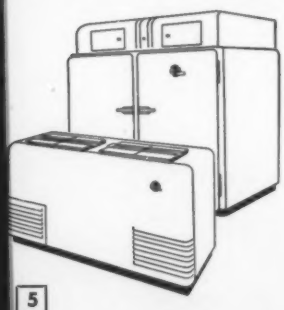
4

York Flakice Machine—Provides a business with its own supply of Frosty Ribbons of fresh, clear ice. For hotels, restaurants, hospitals, dairies and wherever a constant supply of crushed ice is required.

in your pocket!
POCKETS, TOO!

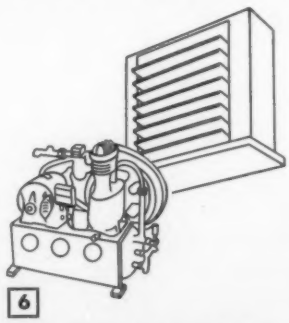


AT A STARTLINGLY NEW PRICE LINE THAT MEETS EVERY NEED



5

York Frozen Food Cabinets—that hold up to 1,350 lbs. of food with a separate compartment for freezing. Ideal for discriminating buyers in better homes and all types of commercial establishments where larger food storage space is required.



6

York Condensing Units and Polar Flow Unit Coolers—A complete line ranging from ¼ h.p. to 3 h.p. for all types of retail and industrial establishments requiring dependable refrigeration equipment

WHY York DEALERS SUCCEED!

York's 2-fold profit-making equipment is only part of the answer...

PROSPECTS. York carries out a continuous direct mail program that creates new prospects daily.

SALES PROMOTION. A year-'round barrage of aggressive sales helps to back up your own sales efforts.

ADVERTISING. National magazine advertising that's read by millions, and professional and business publication advertising that's read by hundreds of thousands, assures instant recognition of York products.

LEADERSHIP. You represent York, headquarters for mechanical cooling since 1885, whose pioneering leadership has contributed many major advances in the industry.

FULL COOPERATION. A capable friendly York Distributor conveniently located to give you 100% cooperation. He is interested in helping you make more profit.

SALES TRAINING. York factory developed and field tested programs give you the latest and best in selling techniques. The famed York Institute of Air Conditioning and Refrigeration is also open to York dealers.

AHEAD OF THE MARKET. York engineering know-how and research assures you continually of products incorporating advanced refinements that are years ahead of the market.

A LINE OF PRODUCTS THAT MEETS EVERY NEED

The York dealer franchise may be available in your neighborhood on one or all of these York products. Check those in which you are interested.

You sell BEST when you sell YORK

York Corporation
York, Penna.

Gentlemen:

Please send me at once further information on the products checked.

1☐ 2☐ 3☐ 4☐ 5☐ 6☐

Present line_____

Name_____

Firm Name_____

Address_____

City_____

R13



Wagner Motors on the job . . .

16,000,000 Cubic Feet of Air Conditioned Comfort

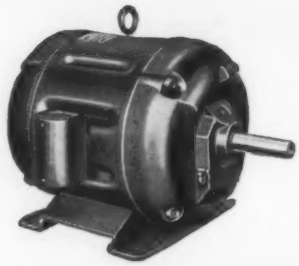
The Kansas City Municipal Auditorium, with enough space to comfortably accommodate 40,000 people under one roof, is equipped with a huge air conditioning system that supplies 1,800,000 cubic feet of cooled air per minute! The giant "weather plant" ranks among the largest in the world.

The air conditioning engineers who installed this system *know* that the plant can function properly only if it is equipped with dependable, efficient motors. That's why you'll find Wagner Motors on this job—and on thousands of other commercial, industrial, and home installations—Wagner Motors *are* dependable.

Wagner builds motors in types and sizes for a wide range of applications. Whatever your motor needs may be, you'll like the performance of Wagner Motors.

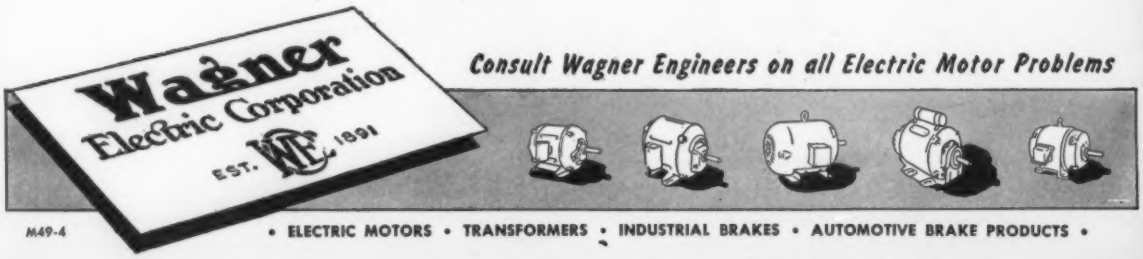
BUYERS OF WAGNER MOTORS GET NATIONWIDE SERVICE! More than 450 Wagner Authorized Electrical Service Stations and Parts Distributors augmented by 25 Wagner-owned Service Branches are ready to immediately supply on-the-spot service, factory guaranteed exchange motors, or genuine Wagner parts. Write for Bulletin MU-24 for complete list.

Wagner Electric Corporation
6442 PLYMOUTH AVE., ST. LOUIS 14, MO., U. S. A.



This steel-frame polyphase motor is typical of the Wagner line of singlephase and polyphase motors. Choose a Wagner Motor for your next installation. Bulletin MU-185 gives information on the complete line of Wagner Motors.

Consult Wagner Engineers on all Electric Motor Problems



M49-4

• ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES • AUTOMOTIVE BRAKE PRODUCTS •

FIREPROOF INSULATION

AT NO EXTRA COST WITH ZEROCEL

- Efficient, "K" factor of 0.24 BTU at 60°F.
- Fireproof
- Will not absorb moisture
- Odorless
- Will not settle
- Immune to fungus, rot and decay
- Easy to cut with a knife

GOLD BOND
ZEROCEL
INSULATION



AVOID fire hazards and protect your investment too. Build your plant of fireproof materials—*including insulation!* Gold Bond Zerocel Insulation is as fireproof as the mineral from which it's made. It simply can't burn! And it has all the other qualities you need and expect in top grade insulation.

Leading owners and builders throughout the Refrigeration Industry specify Zerocel for three important reasons: perfect insulation performance, fire protection, and economy. A special booklet with detailed drawings showing the best method of installing Zerocel will gladly be sent upon request.

SEND FOR FREE BOOKLET TODAY

National Gypsum Company, Dept. I-93, Buffalo 2, N. Y.

Gentlemen: Please send me a FREE copy of the new Gold Bond Zerocel Booklet, "Fireproof Refrigeration Construction."

Name .....

Company .....

Street .....

City ..... State .....



Not just a pipe dream!

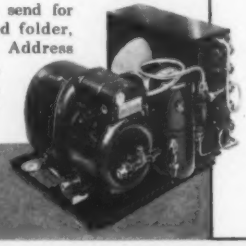
COMPLETE COVERAGE of all condensing unit markets is one of the important and profitable advantages you enjoy when you sell Servel SUPERMETIC condensing units.

Every type of refrigeration fixture, from the smallest home freezer to the largest walk-in refrigerator, can be accurately matched with a Servel unit that exactly meets the requirement.

When you sell Servel SUPERMETIC there's no need to cut price on a "too big" model or take a chance on losing customer goodwill by selling a unit that's "too small." Servel offers every hermetic size from ¼ HP through 3 HP —the most complete condensing unit line in the commercial refrigeration field.

Dealers, distributors and fixture manufacturers are thus assured of maximum profit and complete customer satisfaction on every sale. The compactly designed SUPERMETIC offers more trouble-free performance features. Elimination of belts, pulleys and seal reduces expense and annoyance of service. Every moving part is "force-lubricated." SUPERMETIC is designed for easy installation, and is simple to check.

For complete details, send for free copy of illustrated folder, "Servel Supermetic." Address Servel, Inc., Division ER, 3903 Kentucky Avenue, Evansville 20, Indiana.



Servel SUPERMETIC

Servel Supermetic Units Are Available In All Sizes

▸ STANDARD COMMERCIAL

HORSEPOWER	MODEL	NO. CYL.	CONDENSER TYPE
¼	H2N	2	air-cooled
⅓	H2M	2	air-cooled
½	H2B	2	air-cooled
¾	H2R	2	air-cooled
¾	WH2R	2	water-cooled
1	H4F	4	air-cooled
1	WH4F	4	water-cooled
1½	H4T	4	air-cooled
1½	WH4T	4	water-cooled
2	H6R	6	air-cooled
2	WH6R	6	water-cooled
3	WH6J	6	water-cooled

Illustrated at left is a ½-HP air-cooled hermetically sealed model.

**Most sizes available also in low- and high-temperature types.*


see your "DETROIT"
WHOLESALER
for
Expansion Valves
Solenoid Valves
Controls
"DETROIT"
DETROIT LUBRICATOR COMPANY
General Offices: 5900 TRUMBULL AVENUE
DETROIT 8, MICHIGAN
Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION
Canadian Representatives — RAILWAY AND ENGINEERING SPECIALTIES LIMITED, MONTREAL, TORONTO, WINNIPEG
"Detroit" Heating and Refrigeration Controls • Engine Safety Controls • Float Valves and Oil Burner Accessories
"Detroit" Expansion Valves and Refrigeration Accessories • Stationary and Locomotive Lubricators
"DETROIT"
EXPORT DEPARTMENT—Box 218, Ridgefield, New Jersey
Serving home and industry
AMERICAN STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILER • ROSS HEATER • TONAWANDA IRON



"STOP THIEF!"

This cop has the situation well in hand, and so have Carrier Compressors when it comes to keeping oil from robbing a refrigerant of its cooling effect. And that's mighty important to your customers. It means the kind of refrigeration installation they want.

Where ordinary compressors let oil steal into the refrigerating coil, Carrier Compressors keep it where it belongs—in the crankcase. They accomplish this by a series of Carrier-engineered steps, among them: an unusually large suction manifold . . . a 90° turn in the gas flow . . . an oil return check valve between the suction manifold and the crankcase. As a result, they deliver efficient, low-cost refrigeration from the start—*and year after year.*

For the best job—the kind of job that leads to more installations for you—put in Carrier balanced refrigeration. Carrier Compressors and Carrier Cold Diffusers are designed and precision-built to team together for maximum refrigeration at minimum cost. Carrier know-how, developed through long years of research and practical experience in the field, assures you of outstanding equipment. Write for the Carrier Compressor Catalog CR240 or the Carrier Cold Diffuser Catalog CR241. Carrier Corporation, Syracuse, New York.

Carrier AIR CONDITIONING • REFRIGERATION

Why not Profit from Experiences of others...



"Frigidaire quality and perfect fit insure good operating equipment—that's why I use genuine Frigidaire parts," says W. E. Scott, of Scott Refrigeration Co., 1656 Pine St., San Francisco, Calif.



"Customer confidence is mighty important to us, and we keep it by using genuine, precision-made Frigidaire parts," says L. E. Geo. Leatherwood, of Leatherwood Bros. Hardware, Bonham, Texas.



"It's good business to use Frigidaire parts. They give dependable performance, are warranted for a full year," says T. J. Reedy, of North Town Refrigeration Corp., 4711 N. Lincoln Ave., Chicago, Ill.

Frigidaire Service Parts mean Good Business For You!



FRIGIDAIRE REFRIGERATION OIL

Finest oil money can buy—
Free of all air and moisture

There's extra satisfaction for your customers in the extra care that goes into the processing of Frigidaire Refrigeration Oil. For you can be absolutely sure, when you use this fine oil, that compressor and refrigerating system are getting the best possible protection.

Filtered 28 times to remove the slightest traces of dirt and gum-forming substance, Frigidaire Refrigeration Oil is carefully processed to remove all air and rust-forming moisture. Inspected and tested again and again to make sure it meets Frigidaire's high standards, it comes to you sealed in spotlessly clean, air-tight cans.

Frigidaire Refrigeration Oil is available in two convenient sizes, 1 gallon and 5 gallons, in viscosities suitable for use with Freon 12, sulphuric dioxide, or methyl chloride refrigerants.

FREE! Frigidaire Parts Catalog. For full information about all Frigidaire service parts, write for your free Frigidaire "Parts" Catalog today.



FRIGIDAIRE DIVISION
General Motors Corporation
1345 Amelia Street, Dayton 1, Ohio

Please rush my free copy of your parts catalog—
"Genuine Precision-Built Frigidaire Parts and Accessories."

*Name*_____

*Firm Name*_____

*Address*_____

*City*_____ *State*_____

FRIGIDAIRE
Parts and Accessories



From an insulated body . . .

to a 45° - 50° refrigerated truck

As simple as 1-2-3

*Name on request

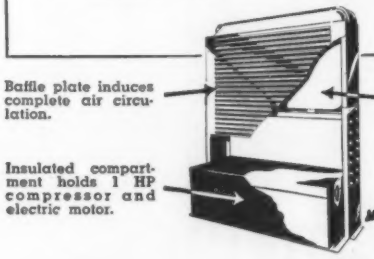
with KOLD-HOLD'S new *Pakage* truck unit

Hi-temperature refrigeration of perishables is achieved quickly, easily and economically through the installation of the new "Pakage" truck unit. This unit is a completely self-contained refrigeration system which you can install (see right) in from two to three hours without special body work, holders or brackets. It works well in any properly insulated body, regardless of age . . . and it maintains a 45° to 50° temperature throughout the longest day's deliveries. The unit recharges itself by simply plugging in to any 110V outlet. 220V motor is available if desired. Write for the "Pakage" truck unit bulletin for information.

1. Cut two holes in the floor of the truck for air intake and discharge. Dimensions and measurements come with the unit, as well as complete installation instructions.

2. Push the unit into position over the holes and bolt securely into place. This is all the installation required.

3. Plug into 110V outlet. Twenty foot rubber covered cord is supplied with the unit. If desired, a connection box may be installed outside the body for greater convenience.



KOLD-HOLD

Jobbers in Principal Cities

PROCESSING · TRANSPORTATION · STORAGE

protects every step of the way

KOLD-HOLD MANUFACTURING COMPANY - 503 E. HAZEL ST., LANSING 4, MICHIGAN

YOU CAN BE SURE
..IF IT'S
Westinghouse



SELL THE LEADER... SELL WESTINGHOUSE!

- ***Easier to sell*** because every model from the Bottle Cooler to the Explosion-Proof Cooler has the famous Westinghouse Hermetically-Sealed Refrigeration System backed up by the 5-Year Guarantee Plan.
- ***Easier to sell*** because Westinghouse includes all these plus features: Automatic Stream Height Regulator, Stainless Steel Top, Anti-Squirt Bubbler and Foot Pedal Control.
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HERE'S WHY

THE PENN 270 HANDLES MORE CONTROL JOBS BETTER

Because it's really *two switches in one,* the Penn 270 is adaptable to a far wider variety of applications in refrigeration and air conditioning. This is the first and only switch in the industry that has load-carrying 2-pole contact structure.

With a new and simple "sight-set" calibrated scale it is easier than ever before to make required adjustments. "Cut-in" and "cut-out" points can be set directly, without bothersome addition or subtraction.

These are two of the plus features which make the Penn 270 Series the outstanding value in the industry. Series 270 and 272 are "single" temperature or pressure controls. Series 271 and 273 "dual" controls combine a temperature or low side pressure actuated mechanism and built-in high pressure safety cut-out.

Ask your wholesaler—or send for Bulletin 2652A, which explains why the advanced design and construction features of the 270 series insure greater dependability... more efficient operation... freedom from contact trouble... better electrical performance... greater accuracy regardless of mounting or vibration conditions... easier installation and adjustment. Write now to **Penn Electric Switch Co., Goshen, Ind.** Export Division: 13 East 40th Street, New York 16, U.S.A. In Canada: Penn Controls Ltd., Toronto, Ont.



2-POLE CONSTRUCTION

DIRECT READING SCALE

PENN

AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, PUMPS, AIR COMPRESSORS, ENGINES, GAS RANGES

LET'S KEEP OUR GAINS



THE present hue and cry over real and imagined threats of subversive elements to the safety, security and established order of the United States must not be allowed to obscure the big responsibility which we have to keep our own house in order. Gains which we have made in strengthening our system of private enterprise must not be lost. Further advancements must be expected.

It was largely the ingenuity and productivity of our free enterprise system which won the war. The same features of our American way of doing things should constitute the best guard against any pestilences which may creep in from abroad.

Partners in the system of private enterprise are stockholders, management, employees and patrons. Honesty and sincerity must be the basis for their ventures, large or small. Frank dealings and a free exchange of information between all parties is a major requirement.

It is because business so often has aroused suspicion on the part of stockholders, employees and customers that it has permitted politicians and factional leaders to pick up the popular banner called "social gain." Such was one reason that business forfeited so many of its prerogatives to government—prerogatives which it is only just beginning to regain.

Realistic efforts on the part of all business and industry to strengthen and preserve our system of free enterprise, chiefly through recognition of their social and economic responsibilities, will do far more to spike subversive threats than all the Communist hunts now under way. Without such efforts, we might as well concede victory to the "isms"—and let the atom bomb do the rest.

There have been healthy signs of a resurgence of social consciousness on the part of business; of more intelligence on the part of management and labor in their approach to mutual problems; of a relaxation of the government's tendency to run everyone and everything; of a growing consciousness on the part of the public generally as to what should constitute a sound and secure America.

We can hope that these trends will continue and that private enterprise will become an increasingly strong bulwark against those who might wish to step in and run our household for us.

W. A. Patterson
President
United Air Lines, Inc.

BTU's

News • Laws • Trends

New Weapon for the Cold War

AMERICA should fight the cold war with ice cream, in the opinion of Egmont Arens, New York industrial designer. "We have heard a great deal about fighting a cold war against Russia," says Arens. "My belief is that if ice cream were dropped from airplanes in insulated bags to the population of Russia, with a little note saying 'This is what American workers eat every day', Mr. Stalin would have a hard time getting his boys to fight us."

In expounding this somewhat unorthodox theory, Arens described ice cream as one of the most glamorous food products in the world. "Wherever the American army has gone," he pointed out, "the soda and ice cream fountain has followed, and European nations have learned to interpret American prosperity in terms of our delicious frozen dessert."

Hot Plastic Parts Get "Dunked"

ANOTHER use for refrigeration equipment in the production of plastic parts has been created with the introduction recently of a work table which Plasti-Cast Control Co. of Pasadena, Calif. is making for use by plastic molders. The work table incorporates a stainless steel sink containing refrigerated water, cooled by a condensing unit mounted below the hardwood table top.

As the hot plastic parts are drawn from the machine mold they are "dunked" in the water bath, where they are given a fast chill which is designed to combat shrinking and warping. Use of the "dunking" treatment, it is said, permits faster production with fewer rejects.

Truck Cooling Simplified

A NEW mobile refrigeration system adaptable to trucks of all types from the smallest panel model to the largest semitrailer unit has been introduced by Coldmobile Co., Detroit, Mich. Chief feature of this system is that it is powered directly off the truck's 6-volt electrical system and uses standard refrigeration equipment with the exception of a 6-volt motor employed to drive the condensing unit.

The additional electrical power required is supplied by a special heavy-duty 6-volt generator which is substituted for the low-output generator supplied as standard equipment by truck manufacturers.

The Coldmobile system is available in sizes from ¼ to 2 hp for both low and high temperature applications. On sizes above 1 hp the special generator is operated through a power take-off from the truck or tractor transmission instead of off the fan belt. On sizes above ½ hp a combination 6 and 12-volt system is employed.

Refrigerant lines between the condensing unit and the unit cooler are flexible and are fitted with self-sealing couplings, making possible rapid replacement of a unit requiring service, with no loss of refrigerant.

The Coldmobile system was developed by Henry O. Kirkpatrick, formerly chief engineer of Advance Mfg. Co., Detroit producer of truck refrigeration systems.

How Not To Display Freezers

MANY dealers who aren't doing the freezer sales volume they think they should are giving their own potentials a kick in the teeth by slipshod display methods. Look around your own display floor—are you using your freezers as tables? Do you have them piled up with sales literature, small appliances, or even table model radios? Your customers would have trouble in even recognizing it as a freezer, so how can they be interested in it?

Get your freezers out where they can do a sales job for themselves. Have them in operation. Fix them so the customer can see inside them. Stock them with some frozen foods, and a pre-sliced loaf of bread. And if you want to make a hit with the mothers, keep some ice cream, a scoop and a box of ice cream cones on hand in your freezer display. Giving the kids a treat will help to sell the adults, too.

Locker Men Learn

FACED with the realization that an alarming number of frozen food locker plant operators throughout the country know little or nothing about the refrigeration system upon which their business depends, the food technology department of the University of Georgia's College of Agriculture has taken steps to correct this undesirable situation by including in its special locker plant curriculum a course covering the elements of refrigeration.

Locker men taking this basic course are instructed in the properties and applications of refrigerants, the nature of various types of refrigerating systems and their applications, the elements and functions of controls and control systems, the types and applications of insulation, and the proper method of computing high and low temperature load calculations.

This course was instituted by W. Carlos Mills, who in addition to being head of the department also serves as secretary of the Georgia locker plan association. Mills, like many refrigeration men, is convinced that many needless breakdowns of locker plant equipment could be avoided, and that more efficient plant operation could be maintained, if the operators were only more familiar with the refrigeration equipment which makes their business possible.



KEEPS 170 COMPRESSORS TROUBLEFREE

Suniso Refrigeration Oil Has Kept Compressors Efficient in Ice Cream Maker's 170 Outlets Ever Since 1942

Early in 1940 an ice cream manufacturer began installing cabinets in his retail outlets, and by the end of the next year he had 170 units in service. As repairs and adjustments became necessary, he decided to replace the original oils with Suniso for all machines, knowing from experience what this refrigeration oil would do for him.

In six years' service there has been no trouble. Systems have been free of wax and sludge. Not one of the units has required major repairs, and maintenance has been limited to routine inspection. The ice cream manufacturer is ahead by a sizable sum because of economical performance year after year. Besides this, he has the continuing good will of retailers and their customers—a natural result of dependable service.

Performance of this kind explains the wide preference for Suniso Oils in refrigeration and air-conditioning. Suniso Refrigeration Oils are the predominant choice of equipment manufacturers in this field. They know the importance of top-quality lubrication.

Suniso Oils come in several grades, each with extremely low pour-point and low wax-separation point. All have exceptional dielectric strength and high resistance to chemical change when mixed with Freon or any other modern refrigerant. For your copy of the illustrated bulletin "Lubrication of Refrigeration and Air-Conditioning Equipment," write Dept. RI-3.

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SUN PETROLEUM PRODUCTS
"JOB PROVED" IN EVERY INDUSTRY

SUNOCO

"Curb Service" Selling



George Belcher, of Cox & Blackburn, Frigidaire's Houston, Tex., distributor, demonstrates his "traveling" compressor to Charles Chittenden and J. J. Metzler, co-owners of a local food store. By using an extra-long extension cord, on-the-spot operation is possible.

Bringing the product to the customer has been a standard merchandising procedure in this country ever since the days of the Yankee peddler. Here's how that same technique now is being effectively utilized to sell commercial condensing units

Before he drove his mobile demonstration unit away from the curb, Belcher had obtained an order for no less than three compressor units. These units are shown below as they were installed in the food store to refrigerate two meat display cases and a reach-in box.



ADDING a brand new twist to an old sales slant, commercial refrigeration dealers throughout the country are adapting "curb service" selling tactics to the merchandising of Frigidaire's new "Meter-Miser" compressor for commercial applications.

Because these compact compressors are hermetically sealed, self oiling, and hardly larger than a lady's hat box, they are proving to be a "natural" for this on-the-spot sales technique, and reports of unique forms of promotion often resulting in "jackpot" sales of several items of commercial refrigeration equipment are flowing in from all sections of the country.

It all started several months ago when Clyde Stewart, sales manager for Joe Hoppe Co., Dallas, Tex., dealer of Frigidaire commercial refrigeration equipment, installed one of the new rotary compressors in the rear compartment of his business coupe and went out to demonstrate it dramatically right at his prospects' doorsteps. (See page 53 of THE REFRIGERATION INDUSTRY for June, 1948.)

He soon discovered that this type of curb demonstration was an extremely potent sales clincher. He further discovered that this mobile type of salesmanship often helped him beat his competition to the orders.

Now this enterprising Texan's idea has spread far and wide, and other dealers in other sections of the country are adding their own special variations to this basic technique. And the results seem to be uniformly impressive.

Typical is the case of George Bel-

cher, of Cox & Blackburn, Frigidaire's Houston, Tex., distributing organiation. Belcher decided to try out his traveling demonstrator on Charles Chittenden and J. J. Metzler, co-owners of a local food store. Driving up to the establishment, he unreeled an extra-long extension cord, plugged it into a convenient electrical outlet in the store, and proceeded to give the market owners an operating demonstration of the new compressor unit.

For the results of this demonstration, see the two photos on this page —he left the store with an order for not one, not two, but *three* of the compressor units!

"Cold Turkey" Test

Still further testimony to the efficacy of this merchandising method is the experience of Weston Sales & Service Co. of Pittsburgh, Pa.

Three of this company's salesmen installed these mobile demonstrator units in their cars and set out on a campaign of "cold turkey" canvassing—the toughest kind of selling. One salesman "clicked" on his first contact with a prospect, selling one compressor on the spot, and obtaining a definite order for three more.

Together, the three men chalked up a total of seven compressor sales during the first week. Furthermore, the contacts which they made through these compressor demonstrations paved the way for the sale of several other items of refrigeration equipment, such as display cases, reach-ins, beverage coolers, and coils.

$10,000 In Sales

During this demonstration period, the Weston firm's sales trio lined up no less than 100 "Grade A" prospects. The activeness of this prospect list was attested to by the results of a five-day closing campaign during which the entire sales crew, 90% of whom had less than 60 days of actual selling experience under their belts, closed orders for more than $10,000 worth of equipment.

These orders included two water coolers, two cooling units, three reach-in refrigerators, a frozen food display case, three other display cases, and a walk-in cooler—plus 10 compressors. And the salesmen were unanimous in crediting the compressor demonstration as the deciding factor in every one of these sales!

Sell Your Service

By Jack M. Baragar

Johnston Refrigeration Construction
Detroit, Mich.

I AM sure that there are a good many of you refrigeration contractors who have had a very humble start in this great industry, beginning perhaps with yourself as the service man and with your wife acting as call receiver, dispatcher, clerk, purchasing agent, credit manager, and what have you.

For a base of operations, you probably used your house, garage, or perhaps—if you had more money than most of us—you rented a $15 a month store front.

From this beginning, some of you have progressed and prospered, making it necessary to expand your organization from one or two to possibly four, eight or perhaps 50 employees. I know of a few cases where over 100 people are employed.

Others have been content to keep their business comparatively small, but active, through the proper service sales methods. Still others have failed miserably and have fallen by the wayside, barely scratching out a living, or in some instances they have gone bankrupt. Why?

Surely we have all had equal opportunities. It makes no difference if you work alone or own a large company. The formula for successful merchandising through service is practically the same. The answer lies in the intelligent application of a few simple rules.

The first of these is in selling your service. And how do you do that?

1. HANDLING CALLS—Receive them courteously and dispatch them quickly. Remember, your call receiver's attitude on the telephone and his, or her, ability to follow through to completion the service required will indirectly bring you many sales.

2. PERSONNEL—Select your service men for their personality as well as their mechanical know-how. See to it that they keep neat and active at all times. Pay them well. A happy mechanic will always give you a good return for the money you are investing in him.

3. 24-HOUR SERVICE—Set up your business to render service to John Customer at all hours of the day and night. Nothing makes him so angry as the loss of refrigeration because of lack of service. Around-the-clock service may sound expensive to you, but actually it isn't if you measure your increase in sales volume against the extra service you can give.

4. INVOICING—Always charge a fair rate for parts and labor. Present these rates to the customer on a neat invoice, itemized and properly priced.

5. COMPLAINT CALLS—Treat every complaint and repeat call from your customers as though your livelihood depended on it. And it does! Negligence along these lines can soon reduce your standing in the community to the rating of "Alley Mechanic—Grade Z."

6. HONESTY—Above all, be honest, both to yourself and to Mr. Customer. Give him 16 ounces for every pound and you will find him the purchaser of tons.

After, and only after, you have given all you have to these points I have just covered, are you ready to do a real job of merchandising through service sales, parts sales, and contract sales.



Exterior of this new "one stop" merchandising center keynotes its modern motif.

Portrait of a Modern Market



Sixty five feet of open refrigerated displays lend punch to the merchandising of fresh fruits and vegetables in the Gamble shopping center in St. Cloud, Minnesota.

Half a dozen specialized types of refrigerated display cases, plus the necessary bulk storage space required to keep them well stocked, make today's food market a "big dollar" customer for the alert refrigeration contractor organization



Two display cases in the delicatessen section offer a wide variety of casserole dishes, 32 different kinds of salads, and numerous other prepared delicacies.



This semi-automatic vending unit dispenses 35 different types of frozen foods. The open-type, self-service cases adjacent to it hold various frozen confections.

AN EXTENSIVE food department featuring some 250 linear feet of gleaming white refrigerated display cases is one of the highlights of the million dollar Gamble Shopping Center opened this year in St. Cloud, Minn., by Gamble-Skogmo, Inc.

Four large walk-in refrigerators behind the scenes provide bulk storage space for the meat, delicatessen goods, frozen foods, and fresh produce merchandised through the display cases in this new one-stop family shopping center where a householder can buy anything from a spool of thread to a complete home.

Refrigeration equipment for this ultra-modern food section was completely Hussmann engineered, and was installed by Allied Store Equipment Co., of Minneapolis, Minn.

The cases are arranged in U-shape along two sides and the back wall for the convenience of shoppers pushing service carts. A quick trip around the department presents a wide assortment of meats, dairy products and delicatessen specialties, all attractively merchandised.

The first section in the food department is on the left side of the Center, and is devoted to bakery goods and pastries.

Adjacent to the bakery department is the delicatessen section, equipped with two 11-foot refrigerated display cases. The first offers 32 different kinds of salads, baked beans, casserole dishes, and other prepared delicacies. Centered between the two delicatessen cases is the chow mein unit—an electric food warmer which dispenses this specialty piping hot. Bulk pickles, olives, and special sausages of various types are contained in the second case.

Self Service Important

Next to the delicatessen are three open-top self-service display cases, all with slanting mirrors affording a complete view of the products carried. The first is devoted to over a hundred kinds of imported and domestic cheeses—the most complete assortment in the community. The second carries dairy items, and pre-packaged cold meats occupy the third.

Fifty-five feet of undivided service meat cases extend along the back wall of the store. A 10-foot length of this section is devoted to sausages and cold meats, 30 feet to fresh meats, and the last 15 feet are divided between fish and poultry.

At a right angle is a 65-foot produce section—another "largest" in the Northwest. Here 40 feet of Hussmann's latest model open-top self-service refrigerated cases with mirrors display to best advantage the fine assortment of fresh fruits and vegetables.

Frozen Food Dispensers

A 10-foot matching non-refrigerated unit is used for potatoes and tuber display. Reserve supplies stored in the base of the units simplify keeping displays filled. Citrus fruits are shown on opposing island gondolas.

The Frez-O-Mat, a semi-automatic vending machine which dispenses frozen foods at the tug of a handle, promotes frozen food shopping. It features a wide variety of items, handily selected from 35 individual compartments. A series of lights at top indicates when the supply in each compartments needs replenishing. Storage space is provided beneath.

Adjoining to the right—and completing the refrigerated display "U," are three open-top self-service cases, one carrying additional brands of

Continued on page 52



Pre-packaged meats occupy one complete self-service case in this million-dollar market. Various meat products packed in cans and jars also are displayed.



This continuous 55-foot section of service meat cases comprises the market's modern meat department. Location of different types of meat is plainly indicated.



Storage for cold meats is provided in this 8 x 10-foot walk-in cooler. Note the arrangement of rails on one side of the cooler and racks on the other side.



Largest of the walk-in coolers is this 12 x 20-foot room for the storage of fresh meats. Just inside the door a rack is provided for holding trays of cut meats.

INSURANCE IS A BUSINESS TOOL

CHECK YOUR COMPANY'S COVERAGE AGAINST THIS LIST OF CONTINGENT LIABILITIES:

- ☐ INJURY TO CUSTOMERS
- ☐ INJURY TO EMPLOYEES
- ☐ PROPERTY DAMAGE
- ☐ FIRE
- ☐ THEFT
- ☐ EMBEZZLEMENT
- ☐ DISABILITY OF OWNER
- ☐ DEATH OF OWNER

NOT every refrigeration executive realizes that insurance is an important business tool. Many, in fact, tend to regard it suspiciously as a strictly unnecessary evil and a drain on the company's profits. In actuality, however, an intelligently planned insurance program can—and should—be as much a part of the business equipment of the average refrigeration sales, service, or contracting firm as its prospect files, its service records, or its shop equipment.

Insurance is something which no successful business can afford to be long without. And full coverage of every conceivable hazard and liability is less expensive than many executives in the refrigeration field realize.

Truly adequate insurance coverage for the average refrigeration firm which deals directly with the public extends far beyond the patently obvious risks. It offers protection against an infinite variety of possible claims, any one of which, if successfully prosecuted, might well jeopardize the firm's very financial existence.

Liability insurance, of course, is one of the basic types of insurance, yet strangely it is a much neglected type of coverage. Liability is the insurance that pays off when you, your employees, or your property cause damage to other people or their property.

There are many ways in which customers can be "damaged" by you, and every one can cost you money unless you carry liability insurance to do the paying off for you. Let's look at some of the "hazards" to customers that are present in even the most modern refrigeration firms:

Your electrical equipment can short. It can cause burns, electrical shocks, and that hazy sort of trouble for which people sometimes collect damages in court—"nervous shock". You can't be sure that electrical appliances and equipment won't short, but you can be sure that you will not have to pay heavy damages.

Wooden tables and chairs can splinter at any time. Driven into a finger or leg, a wooden splinter sometimes causes infection. In extreme cases, a limb sometimes has to be amputated. If that happened to one of your customers because of your carelessness, you can picture the financial trouble which might face you, without an insurance company behind you to make the pay-off.



Nails, too, sometimes jut out of wooden tables, chairs and counters. They can catch in a customer's clothes and rip them, causing not only financial loss but embarrassment. And embarrassment is worth dollars in almost any court.

Suppose a fire broke out. Would you be covered not only for the physical damage done to your fixtures and equipment, but for the damages done to your customers in losses and anguish? Many refrigeration executives feel themselves fully covered with plain fire insurance that protects them from loss when their equipment is destroyed by flames, but does not protect them from the customer who sues because of what the flames did to him.

Have you an advertising sign of your refrigeration firm in front? It could fall. A customer might be passing beneath it and you would be liable for the considerable damages that your sign might cause.

If the sign is wired for electricity, your danger is more than doubled, because, should the sign tumble, the loose wires would constitute an additional fire and shock hazard. Insurance here protects you two ways: it pays off if a passer-by is harmed, and it helps to prevent an accident because, before a policy covering an advertising sign is issued, the insurance agent sends his experts to ex-

amine the installation and spot weak points for you.

If you put up a ladder to repair a defect on the front of your building, the ladder, like your advertising sign, might fall and cause you financial disaster. You can insure against damages that a fall would bring to



both passers-by and to the person on the ladder.

It's easy to leave a little too much wax on the floor. If a customer slips, he may sprain his back or even break a bone. That will cost you plenty of money unless you have an insurance company behind you to take care of the damages.

One tricky factor to falls your customers might take is that old bugaboo of the insurance companies, the "backache." An injured person may claim a backache and there is no way in the world for doctors to testify definitely that he has not been hurt. An injured back is simple to fake. Many sharp artists have done it to the tune of thousands of dollars out of the tills of small businesses.

The insurance companies that write liability coverage have the facilities,



experience, and knowledge to cope with sharpies who fake injuries. You have not. You need their expert aid behind you, as well as the dollars that the insurance company will pay off for you should the injuries prove to be genuine (and most liability claims, it should be noted, are genuine).

These are a few common ways in which a customer may be injured. There are dozens of other liability hazards. Does the vast number of possible damages mean that you must carry a score of different insurance policies? Once that might have been true, but it is not today. Most insurance agents now combine all liability coverages into a single, all embracing, comprehensive policy.

If you buy a comprehensive policy, however, be sure that it *does* include every hazard to which your customers (and your employees) might be exposed.

All states require refrigeration firms to carry Workman's Compensation insurance to cover their employees accidents. There is no need to go into Workman's Compensation here since it is usually a legal re-



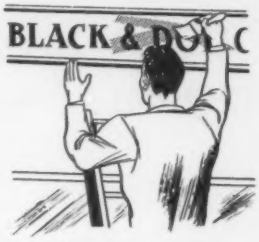
quirement. The wise refrigeration executive, however, often finds it a good policy to carry a little wider coverage than is required by law, since freak accidents and hazards might ruin his business.

Have you ever considered what would happen if you were absent for a month? Some refrigeration executives are lucky in that they have efficient help who can keep the wheels rolling for an indefinite period without the boss's supervision. But most find that their own supervision is necessary. If you were to break a leg, you would be out for at least a month. Would your income drop in that time?

You can insure against this loss with a sickness and accident policy that pays off a stipulated sum for every day you are absent.

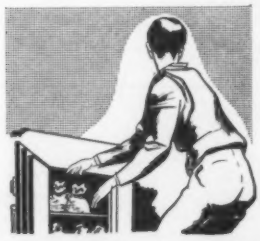
Along with insuring your services to the business, you should insure your life for the protection of your business. Life insurance is a business investment of the first importance. The amount of life insurance you carry, for example, has a strong bearing on your credit rating.

If your business is a partnership, you may find it wise to do as many partners have done—insure the own-



ers' lives in favor of each other. The insurance payment in case of death serves (if it is written into the partnership agreement) as a purchase price that the surviving partners pay to the dead partner's wife or children to buy them out of the business.

Have you ever found your petty cash fund *short* due to petty pilfering by your employees? The losses need not be yours. An insurance policy can take care not only of such shortages, but of robbery and theft risks, pos-



sible embezzlements by your bookkeeper, and even losses due to your own carelessness.

To cover such contingencies, insurance companies now write comprehensive policies called "Three-D Coverage," providing for your protection from losses due to Disappearance, Dishonesty, and Destruction of money or valuables.

These are but a few of the infinite varieties of insurance protection which are available to you and to your company. No doubt your own insurance man will be glad to suggest many more, and to help you in deciding which ones are applicable to your particular situation. Why not call him in and talk it over?

MOISTURE PROBLEMS AND THE SERVICEMAN

Part 1 — Analysis of Moisture Problems

EVERY refrigeration serviceman has his full share of moisture problems. Few, however, have so crystalized their procedures for handling these problems that they can set them down on paper step by step. In this three-part article, the first section of which is presented here, one practicing refrigeration technician details his methods of operation with respect to moisture problems. The opinions presented are his own opinions; the procedures outlined are those which he has adopted or developed on the basis of his own personal experience. We present them with the hope that they may point the way to other less experienced men faced with these same problems—and with the thought that they may serve to stimulate some further discussion among our readers on this vitally important subject.

—The Editors.

By Joe W. Langford
Service Technician
Waco, Texas

TROUBLES brought about by the presence of moisture in the refrigeration system long have rated high on the list of problems plaguing refrigeration servicemen, particularly those specializing in the maintenance of low temperature equipment.

Moisture problems evidence themselves in so many ways that the average service company can greatly improve its operations through an intelligently planned program of "moisture servicing". Such a program should aim at the education of the servicemen so that they will be able to properly diagnose a job, analyzing it to determine just which troubles are caused by moisture rather than by mechanical defects, and then prescribe a method of treatment which will eliminate, insofar as possible, any unnecessary call-backs.

In other words, the serviceman should, after checking the system and determining that moisture is present, decide whether the repair job can best be handled in the field or whether the unit should be taken into the shop. This decision should be explained to the customer in such a way that he will be convinced that the serviceman is doing only that which is logically essential.

Plainly pointing out the manifold effects of moisture in the refrigeration system will tend to support this argument and maintain the customer's confidence in the serviceman.

Not from theoretical figures but from actual inspection, I have found systems apparently free of any objectional percentage of moisture to be in unbelievably slick and clean condition, with vital mechanical parts showing far less wear and pitting after nine to 10 years of continuous service, than moisture laden units in use for only a year or two.

During the war, I sometimes was called upon to service new units which had been in operation only 6 months or so. Analytical tests on samples of oil and sludge from the crankcase gave a strong indication of hydrochloric acid and a minute stage of copper plating, all derived from moisture. It is needless to mention the quantities of iron and metallic dust.

The worst of all hazards of moisture is rusting or oxidization of high-side float chambers, principally the inner surfaces of the top and bottom. Non-condensable gasses formed by moisture reaction are only present after several years of operation.

After clearly explaining all these points, in addition to accenting the need for repeated defrostings of the equipment and readjustments on service calls, it is no problem to help your customer make a decision in your favor.

The check-over should be carefully carried out through a process of elimination, rather than on the basis of snap judgment. The latter, even though being much faster and easier, can certainly mislead the "oldtimer" who is just a little on the over-confident side.

Diagnosing the trouble, in one

sense about the same as a clinical worker would do, is no particular problem. Finding out just exactly what originally caused the trouble, however, is entirely another situation. We will only take time here to scan over a few of the most frequent type of service calls, which are too often diagnosed by mere legend or popular custom.

Is It "Out of Gas"?

Let's take the "out of gas" type call. A unit just spinning along with no apparent load at all, and coasting abnormally long when turned off, might be low or out of gas at the suction valve ports, but this certainly gives no definite indication of a refrigerant shortage in the system. Similarly, the coil which is not completely chilled or frosted all the way through can prove only one thing in regard to refrigerant shortage, and that is a shortage within the coil itself.

"Runs all the time"—"not cold enough"—"too cold" (with thermostatic control)—or just an outright hot-house can be the results of improper operation of the high-low side dividing medium, whether a valve, capillary or float. This, in turn, can be affected by a good many different conditions other than moisture.

Sludge Causes Trouble

Valve modulation, for instance, is most frequently impaired by oil gum or sludge. This condition would not seem possible in a comparatively dry system. Wax separated from the oil-gas mixture could be one cause of this, or sludge and oil gum could be present as a reaction of a previously moisture laden system.

Oil congealing in the valve body is another symptom too often reported as moisture trouble. This usually occurs only on installations where the valve outlet tube going into the coil is vertical or at an acute angle. The various methods of eliminating this trouble, such as a smaller size tube, raising the valve above the coil inlet, or preferably a "U" bend of the proper radius, prove very effective in correcting this sort of "moisture trouble".

Free drying agents in the system can put even the largest locker plant out of operation with no appreciable delay. A careful test for this condition can be made from samples of oil, or from an inspection of the crankcase, as well as the inlet screens of filters and dehydrators.

It is needless to survey the slump of valve efficiency because of improper adjustment. The thermostatic valve is an excellent example of extreme versatility, yet can be the most undependable part of the entire system when improperly adjusted.

That is most commonly the case when a thermostatic valve is operated at a higher superheat than its original factory setting in an attempt to control the frost line, or back pressure. Such tactics invariably result in a critically operating system, sensitive to variable load and weather conditions.

A valve obviously must be calibrated for each individual coil to obtain proper superheat operation.

Continued on page 54

Magic Mirror on the Wall



ONE of the principal reasons why the refrigeration mechanics of the Wallace-Johnston Co. in Memphis, Tenn., have become known for the scrupulous neatness of their everyday appearance hangs on the wall just outside the entrance to the company's service department.

This full-length mirror, 6 feet tall by 3 feet wide, is so situated that every serviceman can't help but see it as he enters the department in the morning to pick up his day's schedule of refrigeration and air conditioning service calls. Above the mirror a sign, simply lettered in red, reads, "How is your appearance today?"

At the sight of the mirror, every service mechanic automatically pauses to check his shoeshine, the cleanliness and press of his neat blue uniform with the company name lettered on the back, and the appearance of his hair. Then he feels that he's ready to go out on the job.

Inasmuch as the serviceman is bound to see the mirror every time he returns to the service department, his reflection serves as a constant reminder of the company's demand for personal neatness and cleanliness in its service employees.

"We get a lot of calls from housewives who have been pleased with the well-groomed appearance of our servicemen," reports Jimmy Johnson, Wallace-Johnston's service manager, "and in that way alone the mirror has paid us excellent dividends."

COMMERCIAL Refrigerator SALES NEWS

While *The Refrigeration Industry* is *not* the official publication of the National Commercial Refrigerator Sales Assn., the Editors assign this space each month to the association. The information below is furnished, for the most part, by the offices of the association and its local affiliates.

Study Shows Gravity Cooling Is Best for Fresh Produce

Retail grocery and market operators can realize a greater margin of profit from sale of fresh vegetables and fruits if gravity-type cooling units are used to refrigerate small fruit and vegetable walk-in storage rooms.

That was the conclusion reached in a joint study by Frigidaire Div., General Motors Corp., and the Kroger Food Foundation. This survey indicated that gravity cooling units are far more effective than other types of equipment when it comes to preserving fresh vegetables and fruits.

Air that is cold, moist and virtually non-circulating, substantially reduces trim and dehydration losses and at the same time builds up consumer acceptance of products, it was pointed out.

G. A. Hayner and R. A. Kramer, Frigidaire special product application experts, and Robert Hockman, Kroger food technologist, participated in the experiments, involving two types of equipment—gravity and forced air cooling units.

Five separate series of tests were conducted in a 6x8x10-foot walk-in cooler in which a temperature of 40 F was maintained. Cooling equipment was hooked up to a ½-hp Frigidaire compressor. The system was operated on an automatic defrosting cycle. Approximately 225 pounds of fresh carrots, cauliflower, cabbage, celery, spinach, apples and oranges were used in each trial. Each test was conducted over a 66-hour period, simulating conditions in the average retail store.

A dollar-and-cent interpretation of the study by Hockman revealed how a grocery or market with a fresh vegetable and fruit business averaging $2,000 per week or $104,000 a year might save nearly $14,000 per annum by using gravity-type equipment.

For example, best results were noted when gravity cooling units with a basic rating of 384 (BTU's an hour per 1-degree temperature difference) were used in a 6x8x10-foot cooler. The dehydration loss was only 1.45% and there was no trim loss recorded. In addition, customer acceptance was rated at 96%.

By way of comparison, a forced air unit with a basic rating of 500, showed trim losses of 4.8% and dehydration losses as high as 9.5% while customer acceptance dipped to 64%. Consequently, a grocery or market using a storage cooler with this type refrigeration equipment might lose about $286 each week in sales volume or more than $14,000 annually.

Three other series of tests in the same cooler resulted in a marked step-down in efficiency, especially for forced air units in this particular application. Produce cooled by a forced air unit with a basic rating of 620 had dehydration losses of 4.75% and trim losses of 1.77%, while customer acceptability was only 81%. On the other hand, gravity units with a basic rating of 338 permitted only 1.66% dehydration loss and 0.16% trim loss. Acceptability was 91%. Other gravity units of similar design but with a basic rating of 256, held customer acceptance at 84% while dehydration losses were 1.94% and trim losses reached 1.45%.

Hayner pointed out that two im-

Continued on page 81

HOTELS, restaurants, institutions, and similar establishments are finding a double use for the Model 70-R "Retardo" reach-in refrigerator produced by Sherer-Gillett Co. primarily for dough retarding applications, this manufacturer reports.

Some alert chef, the company explains, discovered that the box also makes an ideal salad refrigerator, since the standard 18 x 26-inch bun pan makes a very convenient tray for salads. As this refrigerator is fitted in all three compartments with lag assemblies with the pan supports spaced on 2-inch centers, a large number of salads can be readily stored for rush hour use.

This table shows losses in each test computed on the basis of a $2,000 weekly and $104,000 annual produce sales volume. All tests were made in a 6x8x10-foot walk-in cooler equipped with a Frigidaire ½ hp condensing unit.

Test Number	Equipment Used	Basic Rating	Dehydration Loss	Trim Loss	Weekly Dollar Loss*	Yearly Dollar Loss*	Acceptability†
1.	Forced Air Unit**	500	4. 8%	9. 5%	$286.00	$14,872.00	64%
2.	Forced Air Unit	620	4.75%	1.77%	130.40	6,780.80	81%
3.	Gravity Units	256	1.94%	1.45%	67.80	3,525.00	84%
4.	Gravity Units	338	1.66%	0.16%	36.40	1,892.80	91%
5.	Gravity Units	384	1.45%	None	29.00	1,508.00	96%

* From dehydration and trim losses only.
** Equipped with electric humidifying device.
† Acceptability was determined after produce was trimmed.



The green fields of the cash-buying market have been pretty well grazed over . . . cropped to the roots. Competition for what's left gets keener and tougher.

But there's a lush field all around you that has scarcely been touched. A survey of your territory will show up a regiment of medium and small-sized business establishments... markets, restaurants, confectioners, furriers . . . whose owners can't pay cash, but given time and terms such as Commercial Credit offers, they'd be safe and profitable customers for you.

Why not make this business your immediate target?

Your local Commercial Credit representative can help you with valuable information on selling and handling the time-payment buyers. Give him a chance. Call him in *now*.

COMMERCIAL CREDIT CORPORATION

A Subsidiary of
Commercial Credit Company, Baltimore • Capital and Surplus $95,000,000

MORE THAN 300 OFFICES IN PRINCIPAL CITIES OF THE UNITED STATES AND CANADA

For better Installations . . . Faster work

Specify these . . . *Imperial Products*



to give you joints with triple-seal tightness.

IMPERIAL *TRIPLE SEAL** FLARE FITTINGS

When the flare nut is drawn up, the copper tubing is forced into the groove making a tight, self-sealing joint. Extra length pipe threads on pipe ends provide still further protection against leakage . . . flare ends protected by plastic caps. Nuts, tees and elbows made from brass forgings.



*On sizes ⅜" O.D. and larger.

3 seals give you new extra protection against leakage.



IMPERIAL *TORPEDO* DRIERS

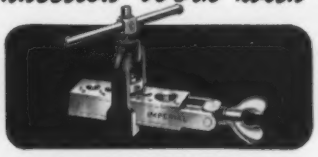
. . . designed for faster, more efficient drying action . . . for longer operation without cleaning.

The most formidable weapon in the war on moisture. Has one-piece copper shell; joints are brazed; charged with dust-free Silica Gel. Has metallic depth filtration element, graduated with size of drier. Easy to refill; interchangeable connections on larger sizes. A complete line to meet all refrigeration applications.

Speed Tubing Connection Work with IMPERIAL TOOLS



HI-DUTY TUBE CUTTER Free-wheeling ball bearing action. Roller type with flare cut-off groove. Makes clean, right angle cuts. Retractable reamer. No. 274-F . . . for ⅛" to 1" O.D. tubing.



HI-DUTY FLARING TOOL Makes precision SAE flares on copper, brass or aluminum tubing—*without scoring the tubing.* Single-nut clamping. No. 300-F . . . flares ¼", 5/16", ⅜", ½", ⅝" O.D. tubing.



HAND TUBE BENDERS Calibrated open side bender. Makes smooth, well-formed bends to a short radius . . . any angle up to 180°. No. 364-F . . . individual benders for each size of tubing from 3/16" to ¾" O.D.



Ask for your copy of Catalog No. 80-A covering the complete IMPERIAL LINE.

IMPERIAL

THE IMPERIAL BRASS MANUFACTURING COMPANY

536 South Racine Avenue, Chicago 7, Illinois

Valves • Driers • Filters • Floats • Charging Lines • Tools for Cutting, Flaring, Bending, Pinch-Off and Swedging

ABOUT People

Alwin B. Newton has been appointed director of sales for Acme Industries, Inc., Jackson, Mich., manufacturer of heat exchange equipment. For the past five years, Newton has served as chief engineer and chief development engineer for Airtemp Div., Chrysler Corp. Previously, he had spent eight years with Minneapolis-Honeywell Co. as manager of its refrigeration division. He also has been associated with York Corp. and General Electric Co.



E. S. McKay of Schenectady, N. Y., has been named advertising and sales promotion manager of General Electric Co.'s air conditioning department, with headquarters at Bloomfield, N. J. McKay has been assistant to the manager of employee and community relations in the G. E. apparatus department. He first joined General Electric in 1933.



Electrimatic Div., Simoniz Co., has announced the appointment of **Al D. Green** as sales representative for New York City, the state of New York and northern New Jersey. Green, who makes his home in Hamburg, N. J., was formerly with a wholesale distributor of refrigeration supplies and equipment. Previously he managed a refrigeration and appliance sales and service organization.

Directors of McQuay, Inc., have elected **Philip S. Morris** executive vice president and **H. Blake Thomas** vice president in charge of sales. Morris joined the company two years ago as assistant to the president and a year ago was advanced to vice president in charge of advertising, purchasing and credit. Thomas served successively as assistant sales manager and general sales manager before his election as a vice president. He joined the company in 1947.

Frank A. Mitchell has been appointed sales manager of the unit air conditioner division of Fedders-Quigan Corp., succeeding E. A. Bonneville, who recently resigned. Mitchell was formerly sales manager of Deepfreeze Div., Motor Products Corp., and also was with the washing machine division of Bendix.



Charles R. Rogers has been appointed division sales manager for Bishop home freezers, covering the states of Arizona, California, Nevada, Utah, Oregon, Washington, and Idaho. Rogers' headquarters will be in San Francisco's Western Furniture Mart.

R. W. Schreiber of Mishawaka, Ind., has been appointed factory representative in Wisconsin, northern Illinois, northern Indiana, and Michigan for McQuay, Inc., Minneapolis manufacturer of commercial refrigeration and air conditioning products.

A. Robert Tankle has been appointed direct factory representative in New York State for Kramer Trenton Co. He will handle the Kramer line exclusively. For the past two years, Tankle has held a responsible position on the company's engineering staff. Ray S. Graham will continue to represent Kramer in the New England area, but will no longer cover New York State.

Rubin Raskin, formerly national sales manager of Stangard Div., Noma Electric Corp., has been named general manager of Franklin Body & Equipment Corp., Brooklyn, N. Y. Plans outlined by Raskin call for the expansion of the firm's business in refrigerated truck bodies as well as in special cabinets. The development of a new line of evaporator plates for use in the refrigeration industry is also scheduled.



Manning, Maxwell & Moore, Inc., has announced the appointment of **Henry S. Moore** as director of engineering and development for the Consolidated-Ashcroft - Hancock Divisions of the company. Moore is a grandson of one of the founders of Manning, Maxwell & Moore. His father, Charles A. Moore is chairman of the board. He became associated with the company in 1938.



Irving A. Ponon of New York City has been appointed national factory representative for the line of frozen food and ice cream merchandising cabinets produced by Haldorf Mfg. Co., Philadelphia. Ponon, now president of Iroquois Commercial

(Continued on page 68)

7,000


ALLIED'S STORE and Locker Plant NEWS

SEMENSKYS OPEN MODERNIZED SUPER MART

REMODELED ST. PAUL STORE NOW STREAMLINED SELF-SERVICE MARKET

Fixture Exchange

A typical front page of Allied's "Store and Locker Plant News" tells the story, in both pictures and text, of one of the firm's many commercial refrigeration installations.

Capitalizing on the well established fact that most people get a kick out of seeing their names in print, this Minneapolis dealer in commercial refrigeration fixtures and locker plant installations promotes its own business by publicizing the business of its customers through the medium of a widely circulated house organ sent to more than 7000 customers and prospects

SEVEN thousand silent salesmen go out each month from the headquarters of Allied Equipment Co., Minneapolis, Minn., dealer in commercial refrigeration equipment, to tell the company's story to its complete list of store fixture and locker plant prospects.

These salesmen are in the form of copies of the external house organ, known as "Allied's Store and Locker Plant News", which the company publishes and distributes each month, and the merchandising messages which they carry are resulting in an encouragingly consistent increase in the firm's store fixture and locker plant business.

This unusually successful direct mail "newspaper" is somewhat smaller than tabloid size, with a 10 x 13-inch page. Printed by offset, its columns of type are liberally sprinkled with both photo and line illustrations.

Primarily, this publication is an

SILENT SALESMEN

effective means of promoting Allied's products and services, but by describing and illustrating various outstanding Allied installations it also provides a gratifying bit of publicity for the company's many customers.

In addition to these installation stories, the sheet is packed with news of new products which Allied has developed or new lines of equipment which it has added. This information sometimes is used in the form of advertisements as well as news copy. Strategically spotted coupons make it as easy as possible for prospects to request more information on certain specific products or services.

In additional to strictly promotional material, the Allied bulletin also publishes news of various industry activities, such as meetings of locker plant groups and other trade associations. One department, entitled "Fixture Exchange", serves as a market place for used equipment offered for sale by the company's customers.

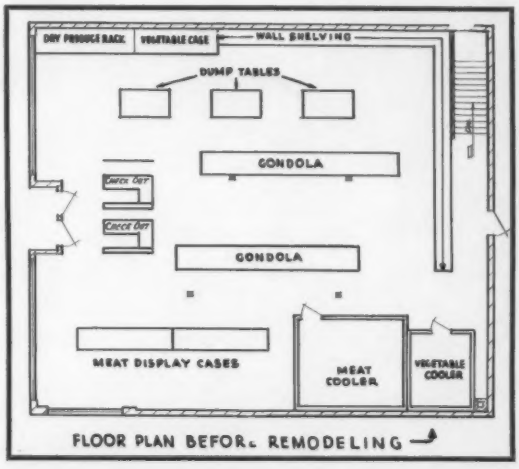
Publication of "Allied's News" ties in beautifully with the firm's specialized and intensive store planning activities, for articles about its completely remodeled food markets, and the profit stories which their owners relate following the installation of Allied equipment, constitute a goodly portion of the paper's editorial material.

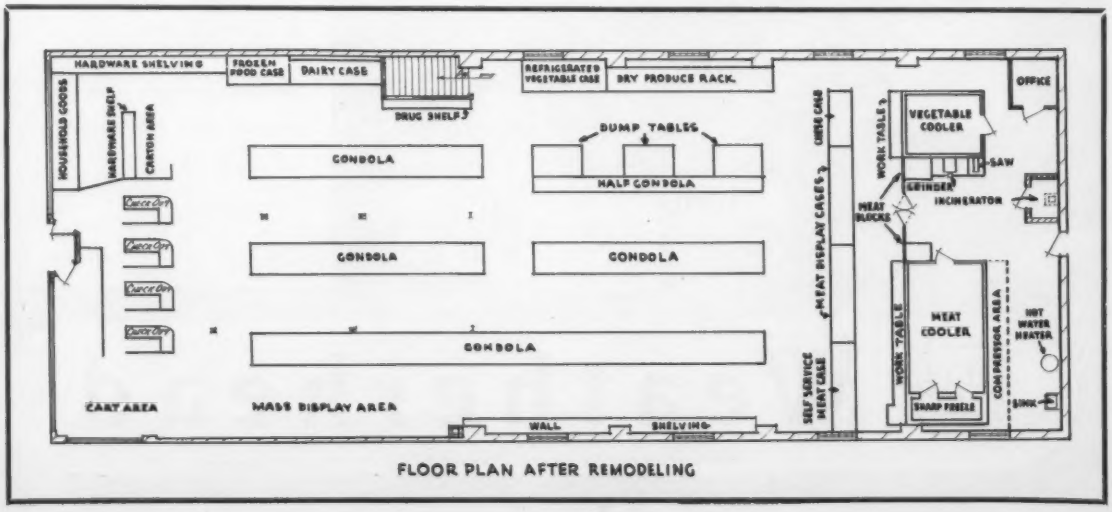
Allied's store planning service is organized upon a truly scientific basis, for it involves a considerable amount of research before a single sales contract is signed.

Allied makes available to any interested merchant the firm's staff of architects, planning engineers, refrigeration and shelving experts, and business advisors. Together, these men survey the prospect's entire store layout, draw up suggested new plans, and prepare business statistics which will show the owner in dollars and cents language how he can increase his business volume by remodeling or rearranging his present store set-up. They thoroughly analyze each store's potentialities, comparing past

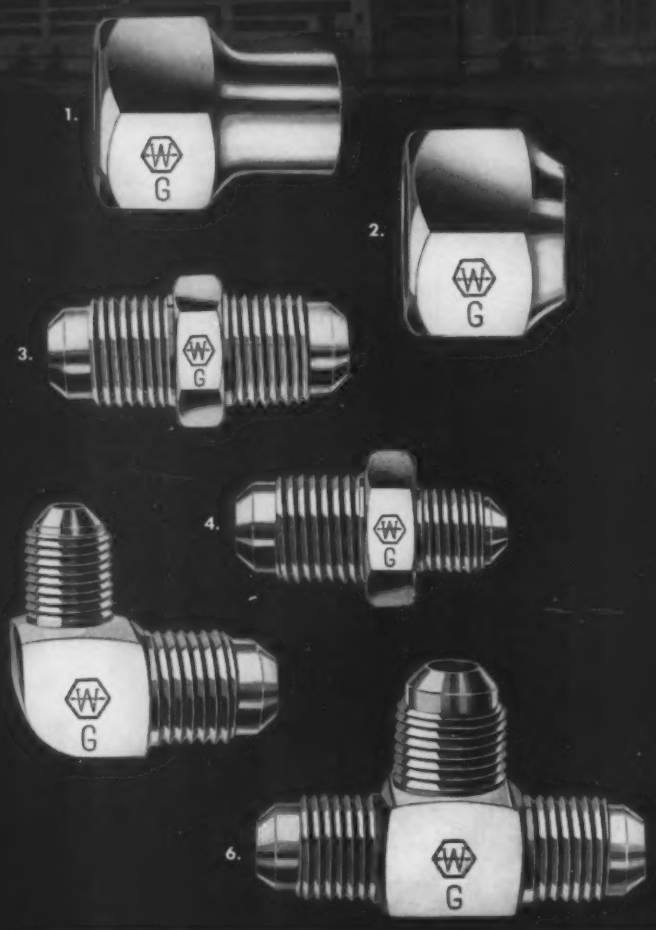
(Continued on page 70)

These two layouts indicate the thoroughness with which Allied conducts its store planning activities. The diagram at the right shows the floor plan of a local food market before Allied went to work on it. Below is the layout of the same market after it had been enlarged, modernized and completely revamped by Allied's planning engineers.





Underwriters Laboratories Approval Underlines Weatherhead Quality in S.A.E. Refrigeration Fittings



UL

WEATHERHEAD S.A.E. Flare fittings are made of extruded bar stock and are relief annealed after fabrication. They meet all rigid requirements, including the severe mercurous nitrate "Season Cracking Test", and have been approved by the Underwriters Laboratories, Inc. for refrigeration application.

Available in All Popular Types and Sizes Representative Fittings Illustrated

1. Long S.A.E. Flare Nut
2. Frost Proof S.A.E. Flare Nut
3. S.A.E. Flare Union
4. Reducing S.A.E. Flare Union
5. S.A.E. Double Flare Tube Elbow
6. S.A.E. Flare Tee

Send for your copy of the new Weatherhead Refrigeration Catalog for 1949

Look Ahead With

Weatherhead

THE WEATHERHEAD COMPANY, CLEVELAND 8, OHIO

Plants: Cleveland, Ohio • Angola, Ind. • Columbia City, Ind. • St. Thomas, Ontario, Canada

REFRIGERATION INDUSTRY *News*

DETROIT MEN FORM FIRM TO PRODUCE LOW TEMP UNITS

Formation of Industrial Cold Co. in Detroit, Mich., to manufacture mechanically refrigerated low temperature cabinets for industrial and laboratory applications has been announced by Charles Earl and Ed. Kellie, partners.

Earl heads Alpha Electric Refrigeration Co. while Kellie is president of Aminco Refrigeration Products Co., Inc., both Detroit firms. For the past two years Aminco Refrigeration has been producing sub-assemblies and Alpha Electric handling the final assembly operations on these cabinets.

The self-contained cabinets are "tailor-made" to meet specific requirements in four ranges of low temperature: 0° to -50°, -50° to -80°, -80° to -120°, and -140° to -240° F. Semi-production line techniques permit the custom-built cabinets to be manufactured and sold at low cost, the company claims.

Industrial and laboratory uses for this "machine tool" are numerous, the manufacturer believes. Industrially it is being used for shrink fits, treatment of metals such as normalizing by intermolecular stabilization, speeding the aging of ferrous metals, or retarding the aging of aluminum.

In the pharmaceutical field it serves to dehydrate blood plasma and is vital in the production of streptomycin, as well as other products.

Laboratories are employing the cabinet to test oils, plastics, and the like, even including complete assemblies or sub-assemblies of mechanical equipment for operation at low temperatures.

Rugged construction, simple control, and quick pull-down of temperature are major features claimed for this cabinet. Refrigeration system employs two stages of compression with high-side floats, the latter being used in a somewhat unconventional arrangement. Depending on the temperature range desired, "Freon-12" or "Freon-22" is the refrigerant.

Several difficulties frequently encountered in low temperature mechanical refrigeration and two stage systems, such as the oil problem, have been eliminated in the design of Industrial Cold Co.'s machines, asserts the manufacturer.

The complete cabinets will be distributed nationally through direct representatives, the company headquarters presently being located at 14550 Third Ave., Detroit 3, Mich.

NEW INDUSTRIAL COLD-MAKER



Typical low temperature cabinet for industrial or laboratory use made by Industrial Cold Co. of Detroit. Cabinets are built in a variety of sizes and shapes to meet individual requirements.

COMMERCIAL DEALER COST MANUAL OUT

A report on "Commercial Refrigerator Dealers Operating Experience in 1947", prepared by Dun & Bradstreet for the Commercial Refrigerator Manufacturers Association, has been published as a pamphlet by CRMA as a "Dealers Operation Manual".

It is being distributed to dealer outlets of sponsoring CRMA companies, and is available to other dealers at $1 a copy through CRMA's office at 111 West Washington St., Chicago, Ill. One section of the pamphlet explains how a dealer can make use of the material in guiding his own business operations.

The survey covers the operating averages of 94 commercial refrigeration dealers in communities of various sizes A similar survey, published in 1946, covered operations in the prewar year of 1941 and the first six months of 1945. Some highlights of the survey include:

The typical commercial dealer surveyed in 1947 operated at a net profit of 6.1% on sales of $250.000.

Average sales volume increased in 1947 to more than double the 1945 level, and to four times 1941.

In comparison with 1941 and 1945, gross profit was somewhat less in 1947, and operating expenses were lower also, leaving net profit about mid-way between the 3.7% earned in 1941 and the 10.4% in 1945.

On the financing of credit transactions, the reporting dealers showed a distinct preference for discounting with finance companies; and a large percentage revealed that they had made financing arrangements for the following 12 months.

A more detailed analysis of the CRMA survey will be published in a forthcoming issue.

FEDDERS DECEMBER BILLINGS BIGGEST

December billings greater than for any other month in 1948 for ½ and ¾ hp window type room air conditioners have been reported by Fedders-Quigan Corp., Buffalo. This increase reflects the company's snowballing campaign for post season sales designed to "take the hokum out of seasonal selling".

FIVE MORE FIRMS JOIN REMA GROUP

Five more companies have recently joined Refrigeration Equipment Manufacturing Association. They are:

Delavan Mfg. Co., Des Moines, Iowa; Kingston Products Co., Tipton, Ind.; Emil Steinhorst & Sons, Inc., Utica, N. Y.; Wabash Mfg. Co., Chicago; and Ultra Violet Products, Inc., Los Angeles.

BODY FIRM ENTERS COLD PLATE FIELD

Franklin Body & Equipment Corp. of Brooklyn, N. Y., manufacturer of refrigerated truck bodies and evaporator plates, has announced the addition of a Refrigeration Division for the manufacture and sale of evaporator cold plates to refrigeration supply wholesalers and manufacturers. Rubin Raskin is general manager of the division.

This is the first of a series outlining the advantages of "FREON"

WHY "FREON" REFRIGERANTS MEET WITH APPROVAL EVERYWHERE . . .

OUTSTANDING CHARACTERISTICS OF "FREON" REFRIGERANTS

- NONTOXIC
- NONFLAMMABLE
- NONEXPLOSIVE
- NONCORROSIVE
- ANHYDROUS
- PURITY
- QUALITY
- ACID FREE
- NARROW BOILING-POINT RANGE
- AVAILABILITY

They're nontoxic . . . one of the reasons why "Freon" refrigerants are widely accepted. They are safe for all types of commercial, industrial and household air conditioning and refrigerating requirements.

If a leak occurs in the system at any time, "Freon" refrigerants cause no injury to people or pets, foods, fabrics or finishes. These refrigerants are odorless . . . yet are readily detected by means of a halide lamp.

"Freon" refrigerants comply with even the most stringent building codes and ordinances. They are listed among refrigerants rated in Group 1 of the A.S.A. B-9 Code as entirely safe for all general applications. Many codes require that refrigerants used in hotels, restaurants, theaters, stores and office buildings must be in this Group.

The nontoxic characteristics and other outstanding features of "Freon" refrigerants are the product of an intricate, laboratory-controlled procedure of manufacture. All "Freon" refrigerants are as pure as scientific methods can produce them. From raw materials to finished product, tests are periodically made to assure this purity and uniform quality . . . important factors in the economical, efficient operation of modern, compact air conditioning and refrigeration equipment.

There's a "Freon" Safe refrigerant for every air conditioning and refrigeration need. That is why engineers and others concerned with system installations recommend that owners protect their investment by approving equipment designed to utilize these refrigerants.

Kinetic Chemicals, Inc., Tenth and Market Streets
Wilmington 98, Del.

KINETIC
REG U S PAT OFF

FREON *SAFE* REFRIGERANTS

"Freon" is Kinetic's registered trade mark for its fluorinated hydrocarbon refrigerants and propellents.

NEW GAS-KEROSENE MODEL INTRODUCED

Bolivar Refrigerator Co., Inc., New York City, has announced that it plans to introduce to the American market the Bolivar household refrigerator, which operates on either kerosene or gas. The unit, which has a capacity of 8.4 cu. ft. and a shelf area of 16.4 sq. ft., uses the intermittent absorption principle developed by E. E. Allyne and the Allyne Laboratories.

Under the intermittent absorption principle, the burner operates automatically, and only when additional refrigeration is required in the cabinet. Operation of gas model is automatic after the connection is made; the kerosene model is said to operate for 7 to 12 days on one filling of the tank. Refrigeration system is hermetically sealed, and the unit is covered by a standard one-year guarantee.

Features claimed for the unit, according to W. T. Kearney of the company, are that it is noiseless in operation, can be located or relocated at will anywhere in the home, and that it is simple to install and free of service troubles. The refrigerator may be shipped and repeatedly handled in any position, he declares, without damage or disarrangement of the refrigeration system.

The company is now studying distribution plans for the United States, Kearney says. Exclusive export distributing rights have been given to the firm of Brady-Tollefson, Inc. of New York City, who are now awarding franchises in overseas areas.

Under a manufacturing contract recently completed, production of the Bolivar will be undertaken by Wilson Refrigeration Co. of Smyrna, Del.

THOMAS HEADS REMA LOWSIDE GROUP

H. Blake Thomas, general sales manager of McQuay, Inc., Minneapolis, was elected chairman of the lowside equipment product section of Refrigeration Equipment Manufacturers Association at a recent meeting. Thomas will serve as chairman of the section until April, 1950.

Twenty-three leading firms are represented in this group. It was decided at this meeting to gather and distribute monthly sales figures on low-side equipment through the offices of REMA, with all firms in the product section reporting.

A committee consisting of V. C. Knight, Betz Corp., R. M. Kritser, Peerless of America and Thomas, was appointed to draw up the necessary reporting forms covering all products of major interest to the subscribing members and to put the reporting system into operation as soon as possible.

NEW KRAMER PRICES INCLUDE FREIGHT

Kramer Trenton Co., Trenton, N. J., manufacturer of heat transfer equipment, has announced that all list prices covering Kramer refrigeration and air conditioning equipment now include freight allowed to the freight station nearest the purchaser anywhere within the continental United States east of the Rocky Mountains. Routing of shipments, under this arrangement, is to be determined by the manufacturer.

Sole exception to this new policy, the company points out, is the Kramer line of triple trough baffles, when ordered less coils.

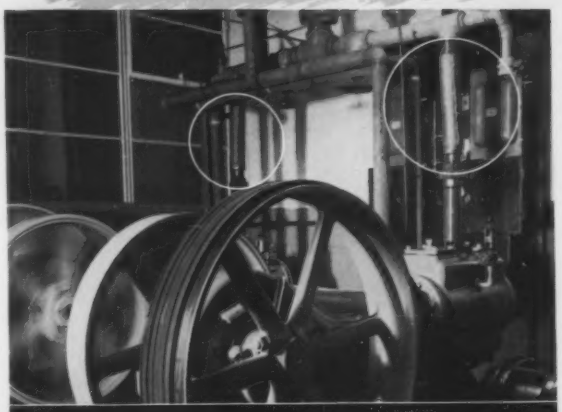
HAJOCA OPENS NEW WAREHOUSE

Hajoca Corp., refrigeration and plumbing wholesaler and manufacturer, recently held open house for 350 guests at its new warehouse and office building, 130 E. Baltimore Ave., Lansdowne, Pa.

McDANIEL HEADS NEMA GROUP

John F. McDaniel, manager of the refrigeration department, Hotpoint, Inc., has been elected chairman of the household refrigeration section of National Electrical Manufacturers' association for 1949.

Keep *noise* and *vibration* out of fixed piping . . .



with REX *Super-Service* VIBRA-SORBERS

REX VIBRA-SORBERS, the preferred vibration eliminators, provide the economical, dependable way to isolate compressor noise and vibration. Installed in lines to and from the compressor they not only minimize noise transmission but also reduce equipment maintenance.

REX VIBRA-SORBERS are available in bronze or steel with straight extended tube ends or threaded fittings. Bent extended tube ends for angle installation are also available.

Write for data sheets giving full information on REX VIBRA-SORBERS . . . it's an important step toward perfecting vibration control.



CMH REFRIGERANT CHARGING LINES

are light weight, long-lived, quality charging units for all types of refrigerants. Non-deteriorating, non-corrosive, non-collapsible, non-kinking and non-seeping. Other flexible metal hose types are available for loading and unloading refrigerant.

CMH

ONE dependable source for every flexible metal hose requirement.

CHICAGO METAL HOSE CORPORATION

Maywood, Illinois

Plants at

Maywood, Elgin and Rock Falls, Ill.

In Canada: Canadian Metal Hose Company, Ltd., Brampton, Ontario.

AUSTRALIAN WHOLESALER'S NEW STORE



Here is the attractive exterior of the new branch opened by F. C. Lovelock Pty. Ltd., refrigeration equipment wholesaler, in Melbourne, Australia. Modern in every detail, the new branch sets a new style for this type of business in Australia.



Part of the 54-foot sales counter in Lovelock's new Melbourne branch. Supplies are readily accessible, and one display panel "spells out" the company's name by using the initial letters of some of the refrigeration supplies which it handles.



Lovelock's "Blue Book Library", a feature of its Sydney office, is duplicated in the Melbourne branch. The library and conference hall, with a capacity of 80, includes complete kitchen facilities and may be used by customers without charge.

KELLIE HEADS REMA FLOW VALVE UNIT

Edward Kellie, president of Aminco Refrigeration Products Co., Detroit, was elected chairman of the flow control valve section of the Refrigeration Equipment Manufacturers Association at the last meeting of this product section.

The group discussed at length the questions of establishing industry statistics and the matter of standards on flow control valves.

Kellie said "Our discussions were based primarily upon the advancement of the industry on a cooperative basis with a definite effort on the part of all members of the flow control valve section to work towards a reasonable standardization with as little disruption as possible."

LOVELOCK OPENS MELBOURNE BRANCH

More than 400 persons in the refrigeration and air conditioning business in Australia helped F. C. Lovelock Pty. Ltd. celebrate the opening of its Melbourne branch, located at 510 Collins St. The new branch is said to be something new and modernistic for this type of business in Australia, with attractive frontage and window display area, plus ample parking space for customers.

Entire first floor is set aside for sales and display. Sales counter is 54 ft. long, and extends the full length of the showroom. Displays of parts, supplies and tools dot the area fronting the sales counter. Also located on the first floor are the general offices, accounts section, conference hall and library, to which is attached a modern kitchen with complete food serving facilities.

The Blue Book Library for refrigeration and air conditioning, a feature of Lovelock's head office in Sydney, is duplicated in the new branch, and is available to industry members without charge. The conference hall, with a seating capacity of 80, also is available for customers' use without charge.

Upper floors are occupied by the repair division, technical department, and workshop.

NEW RANCO PLANT IN DELAWARE, OHIO

Ranco Inc., Columbus, Ohio, manufacturer of refrigeration and automobile heater controls, recently moved the complete production of its automobile heater controls to a new plant at Delaware, Ohio.

The new plant includes six large completely insulated quonsets with over 90,000 sq. ft. of floor space, including a complete machine shop and assembly line, with a present employment of about 850.

Removal of automobile heater control production to the new plant released space needed for the company's expanded production of refrigeration controls, of which it has manufactured more than 20,000,000.

ANSUL HOLDS FIRST POSTWAR MEETING

The refrigeration division of Ansul Chemical Co. recently held its first general sales conference since the war when eleven salesmen, representing every section of the country, met at Ansul's home office in Marinette, Wis., to discuss the introduction of the company's new refrigeration oil.

Sales objectives for 1949 were established and new sales aids and other promotional services were talked over. Sales Director L. C. McKesson presided.

The attending salesmen were Lew Russell and Vern Dyer, far west; Dwight Hardie, north central; Ray Polley, southwest; Henry Gullatt, south; Floyd Duvall, Herman Goldberg, Willis Stafford, Felix Wierman, middle west; T. R. Kearney and Herb Dill, east.

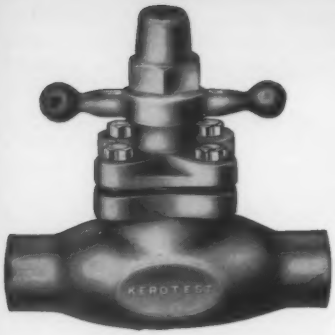
FRIGIDAIRE SETS REGIONAL SCHOOLS

A series of five regional air conditioning application schools for key representatives from 45 districts across the nation has been initiated by Frigidaire Division of General Motors, it was announced by C. F. Wood, air conditioning sales manager. The special school series will continue throughout March.

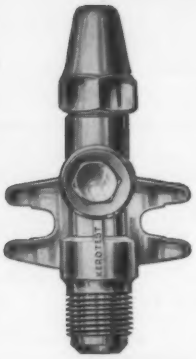
Each regional school is of one-week duration and covers all phases of application work on packaged and central system air conditioners, including selecting equipment, placement and duct installation. Special emphasis will be placed on business, institutional and industrial type applications. Instructors are R. Woodward and Fred Schulenberg, both of the factory air conditioning sales organization.

HOWARD PLANT NOW IN PHILADELPHIA

Howard Refrigerator Co., Hatboro, Pa., has announced that effective Feb. 15, the main office and plant will occupy their new quarters at 507 Arch St., Philadelphia. Centrally located, the change will afford a more convenient and efficient operation.

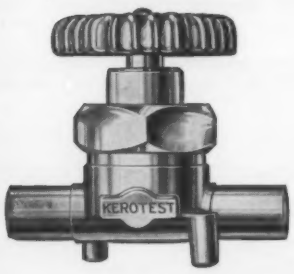


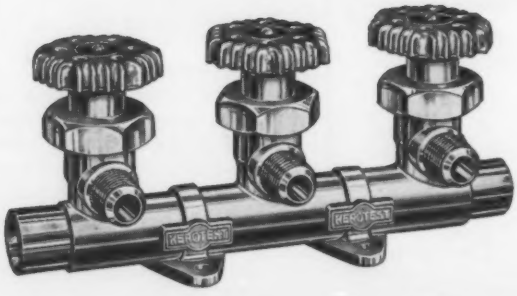


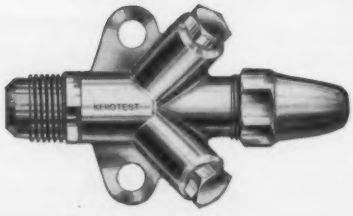


HERE ARE THE *NEW* KEROTEST VALVES YOU ASKED FOR..!

Your demand has been our command . . . and here are five of the new KEROTEST Valves that will give you still more of the characteristics you look for most in valves. More compactness . . . greater ease of installation . . . fuller efficiency . . . and greater dependability and service than ever . . . with economy. For the finest and newest in refrigeration and air conditioning valves . . . see your KEROTEST Wholesaler.







See your **KEROTEST** *Wholesaler*

KEROTEST MANUFACTURING CO.
PITTSBURGH, PA.

AMERICA'S FIRST NAME IN QUALITY VALVES

Continued from page 35

frozen foods, another—ice cream and frozen confections, and the third, frozen fish and poultry—all pictured in the compartments just above each case section.

As a means of building volume in ice cream sales, a small open self-service ice-cream cabinet is placed just inside one of the principal exits of the building at the end opposite the grocery department. Customers on their way home from shopping in other parts of the center can pick up a package of their favorite frozen confection without entering the food department.

An elaborate refrigeration system is at work behind the scenes to insure the utmost in sanitation and freshness. The Gamble Center features four large walk-in coolers for the storage of meats, produce, dairy products, and other perishables.

The largest of these room-size refrigerators measures 12 by 20 feet, with a door at each end, and is devoted exclusively to fresh meats. Beef is hung along one side, pork along the opposite wall. Inside the entrance door at one end a rack is provided for trays of cut meats, and facilities are provided for cutting sufficient meat in advance to maintain a quick source of replenishment for display cases.

Facing the large meat cooler is an 8 by 10-foot refrigerated room for the storage of cold meats. Both of these coolers were planned for easy accessibility from the service counters. Rails accommodate large hams, baloneys, and sausages, while side racks carry stocks of luncheon loaves, bacon, and other packaged meats.

A third cooler, also 8 by 10 feet, stores cheeses and dairy products, while a fourth, 12 by 14 feet, is used for produce.

Spertifiers, ultra violet ray with a germicidal and bacteria-killing power, are provided in all the storage coolers.

Ten machines with a total of 14 hp generate power for this refrigeration. With the exception of the compressors in the frozen food cases, which are self-contained, all machines are mounted in a bank in the basement.

Hard-drawn copper tubing has been used throughout, and all tubing is brought to one central installation panel. A diagram mounted behind the machines indicates which fixtures are connected to each machine. Every fixture and every machine has been numbered, making it a simple matter for a serviceman to spot trouble without delay.

The refrigerated display installations at the Gamble Shopping Center in St. Cloud are the largest in any of the company's stores, although several of the Gamble Centers have similar equipment in operation.

FROZEN food packaging is discussed in the latest Application Data Section issued by American Society of Refrigerating Engineers, 40 West 40 St., New York 18, N. Y.

Designated AD 34-R, this four-page booklet, "Protective Packaging of Frozen Foods," covers such subjects as factors influencing the permeability of materials and air-tightness of packages at low temperature, packing and wrapping materials, effect of packaging on quality of food, etc.

The pamphlet, originally published in 1944, has been extensively revised.



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REPLACEMENT UNITS

for Commercial, Semi-Commercial, Air Conditioning and Household Refrigerator Compressors . . Tested by time, proved by performance over 18 years . . *Simplicity in construction—easy installation—efficient operation—economy*—you get every one of these important features in ROTARY SEALS!

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THE mechanical seals for ROTARY SEAL COMPANY rotating shafts

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PACKLESS ANGLE VALVES
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GAUGE MANIFOLDS
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SAE FLARE FITTINGS
PACKED ANGLE VALVES
PACKLESS LINE VALVES
HAND EXPANSION VALVES
NON-REFILLABLE DRIERS
DOUBLE PORT SIGHT GLASSES
HY-K ECONOMIZER ACCUMULATORS
PACKLESS BRANCH SHUT-OFF VALVES

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Superior Valve and Fittings Co.

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MOISTURE PROBLEMS . . .

Continued from page 39

Without the use of good thermometer well clips for the final adjustment, the thermostatic valve very often knows what it is supposed to do, much better than the serviceman himself.

In the case of automatic expansion valves, too much glycerine or dampering fluid in the bellows, as well as water condensed through the adjusting stem, can offset the delicately balanced mechanism of the valve, very much the same as moisture within the system.

The usual "runs all the time" and "not cold enough" complaints which arise when the compressor is inefficient are sometimes no laughing matter. This is especially true when you have used your exchange compressor on an earlier stop.

Very often clogged suction port screens in the compressor body cut down the capacity. This condition on certain model compressors will not show up on the compound gauge which is connected between the suction valves and the screen.

Warped bodies and compressor heads of the surge type can cause the best of valve plates to fail. This brings about minute seepage between the high and low side of the head, giving the same effect in a larger degree as faulty discharge reeds. As a rule the entire upper half of the compressor and condenser line will be blistering hot.

A slightly warped condition will fail to register on the most sensitive service gauge, and yet cause all kinds of trouble. The surest test is on the lapping block, provided it has been accurately surfaced and ground.

Alcohol Brine Troubles

Soda fountains and cabinets employing alcohol as a brine solution have baffled many a good serviceman getting call-backs on such complaints as "running all the time," or "too cold, but bulk ice cream melted on top."

After eliminating all possibility of insufficient refrigeration, and making sure that the liquid level is high enough, there is only one thing left to do and that is bring the *entire* system up to a higher temperature. This in turn should restore normal thermotic circulation, provided the solution has not been too heavily diluted.

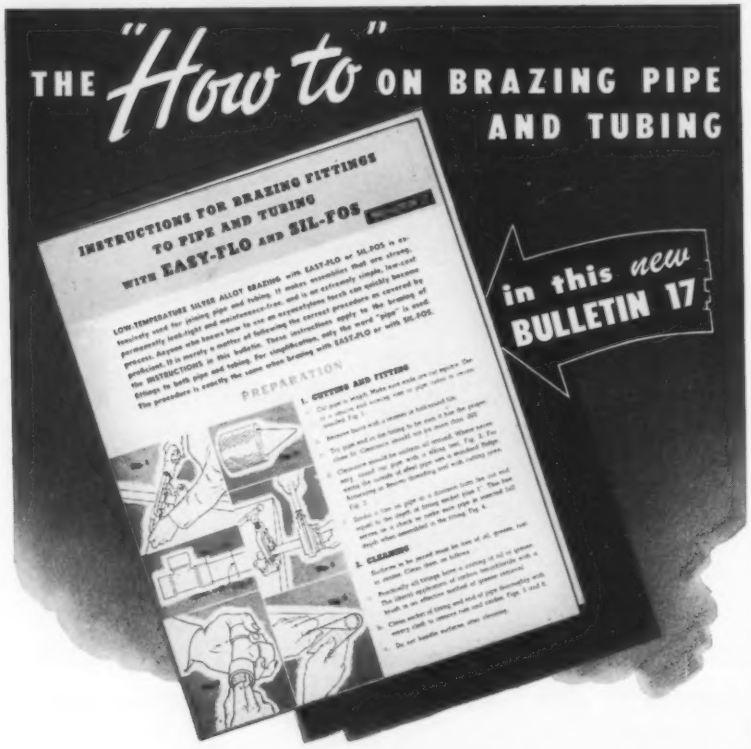
A very narrow differential adjustment at the highest safe cut-in point will prove effective on most jobs. The pressure control or thermostat can be readjusted to normal settings within a day or so, depending entirely on the size and type of product.

Cycling Switch Problems

Incidentally, while we are on the subject of thermostats and pressure controls, it might be well to review a few of the basic facts that would warrant any internal adjustment or replacement of the cycling switch.

It is true that this control is very much like the carburetor on an automobile engine. However, neither operates at its peak of efficiency when the conventional settings are unbalanced to offset abnormal operating conditions, such as defective machines, insufficient gas supply, and extreme operating temperatures.

THE "How to" ON BRAZING PIPE AND TUBING



IF you do any brazing of pipe and tubing with EASY-FLO or SIL-FOS —or want to know just what the process is like you will find this new bulletin helpful. It gives the procedure, step by step, for—cutting and fitting—cleaning—fluxing—supporting assemblies—heating and flowing the alloys—cleaning after brazing. It tells how to make vertical up, vertical down and horizontal joints. Write today for a copy of BULLETIN 17.

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BUY FROM YOUR REFRIGERATION WHOLESALER

With the thermostat bulb free of ice and water, and properly placed all the way into the tube, we can readily determine any *consistent* irregularities in the control itself.

First of all, a temperature reading is taken with a mercury thermometer at about the center of the coil, and another in the area of the thermostat bulb. These temperatures are carefully compared with the gauge readings obtained during the condensing unit check-out. The results should be *within* the close tolerance of low temperature refrigeration, *before* making any change in the control itself other than the range selector.

An open switch at cut-in temperature or higher is most frequently caused by burned points or weak power element. In either case, if it is not practical to replace the defective parts the complete control should be replaced, in preference to filing or sanding silver coated contacts or compensating for weak bellows by reducing the tension on cut-out springs. Weak power elements give sluggish operation, to say nothing of complete discharge sooner or later.

In the case of roaches and other types of bugs that have a particular liking for warm overload heater coils, a careful coating of the outer surfaces of the switch with D.D.T. varnish will prove effective for six months or longer.

Not cutting out can usually be accredited to the thermal bulb being partly pulled out, or to dirt and oil-gum in the moving parts of the thermostat. In addition to contacts being fused together or bellows spring being weak, badly worn pins and arms call for a switch replacement. Too much differential can be traced to any one or more of these last three defects. Ice or water in the thermal-bulb-well also causes an increase in differential.

This all boils down to back-pressure reading when a system runs all the time, too hot or too cold. The back pressure, in turn actuating the cycling control (whether thermostatic or pressure control), is greatly affected by valve and condensing unit operation, as well as refrigerant charge and non-condensables.

Suction pressure too low and sometimes too high can be traced to a de-

SPECIFICALLY designed for manufacturers and exporters of electrical goods, but also of interest to anyone responsible for the supplying or installing of electrical equipment in various parts of the world, is a new booklet entitled "World Electrical Current Characteristics."

Prepared by the Public Utilities Section, Office of International Trade, U. S. Department of Commerce, from data supplied by foreign service officers and official publications of foreign governments, this booklet tells at a glance the kind of electrical current used in more than 1600 cities and towns throughout the world, as well as in the principal countries of the world.

This information is broken down into the type of current, alternating or direct, furnished by public utility plants in each city; phase, cycle, and voltages used in lighting and for household appliances; and frequencies and voltages which predominate in the principal nations and the kind preferred in each country.

Paper bound and 30 pages in length, this volume is available from the Department of Commerce at 15 cents per copy. Order under item No. 39.

THAWZONE*
PATENTED
The PIONEER FLUID DEHYDRANT

THE THAWING DEHYDRANT

The action of THAWZONE in a refrigerating system is entirely different and more effective than that of ordinary driers, since it *mixes and circulates with the refrigerant.* Compare this with the ordinary method which depends on the water being brought to the dehydrator, remembering that water often becomes trapped and *never* reaches the drier.

THAWZONE "searches out" moisture, travelling with the refrigerant to every nook and cranny of the system . . . and then chemically changing all moisture to an inert and oil-soluble compound which benefits rather than harms the system.

The use of THAWZONE eliminates moisture troubles . . . quickly, easily, economically. For a fuller explanation, ask your refrigeration equipment wholesaler for a copy of the THAWZONE Manual.

Your wholesaler carries THAWZONE

*TRADE MARK REG. U. S. PAT. OFF.

ALSO MAKERS OF TRACE* REFRIGERANT LEAK DETECTOR

HIGHSIDE CHEMICALS CO.
195 VERONA AVE. NEWARK 4, N. J.

fective condensing unit, although all indications point to moisture trouble. Some of the most skillful and experienced engineers maintain that there is a formation of non-evaporative liquids derived from the breaking down of refrigerants. A quick test for moisture when the back pressure is abnormal can be made by the conventional warming up of the valve or capillary.

In many cases, particularly with the new precisely engineered type of cabinets, this method can not be employed, when the small capillary is within the sealed cabinet insulation, without emptying the compartment and bringing the walls up to room temperature.

From the foregoing it can readily be seen that neither cut and dried theory, nor just experience of trial and error, can be relied on entirely in solving moisture problems. In reality, a balancing of both methods is required.

(Part 2 will appear next month.)

BUY FROM YOUR REFRIGERATION WHOLESALER

FOR THE SUREST, EASIEST REFRIGERANT DRYING,

use PA 100*

DAVISON *Refrigeration Grade* **SILICA GEL . . .**

processed especially for the dehydration of refrigerants

Use PA 100 and be safe. PA 100 gives instant refrigerant drying to well below the freeze-up level . . . assures dust-free drying—no caking or channeling of refrigerant—maximum drier capacity—removal of acids and other corrosive compounds . . . *all* the features the experienced service engineer demands of his ideal refrigerant drying agent.

Ask your jobber for dehydrators charged with PA 100 . . . or for the bulk can with the blue label.



*T. M REG. APP. FOR

THE DAVISON CHEMICAL CORPORATION

Progress Through Chemistry

BALTIMORE-3, MD.

PIONEERS AND DEVELOPERS OF SILICA GEL

Canadian exclusive agents for DAVISON SILICA GEL:

CANADIAN INDUSTRIES LIMITED, Sales Division—Chemicals Department

DAVIS GETS SALES POST WITH HAJOCA CORP.

R. B. Davis has been appointed assistant manager of the refrigeration division of Hajoca Corp., refrigeration supplies wholesaler with headquarters in Philadelphia, Pa.

Davis brings to Hajoca a background in the refrigeration field covering more than 20 years. Formerly he served as Manager of the southern division of Melchoir-Armstrong-Dessau Co. He was also with the York Corp. for a number of years, serving in an engineering capacity.

MASSACHUSETTS DEALER IS ROTARY OFFICER

Lionel V. MacDuff, owner of North Shore Electric Equipment Co., refrigeration and air conditioning equipment dealer in Lynn, Mass., is serving as an officer of Rotary International, for the fiscal year 1948-49. As governor of District 196, he is coordinating the activities of 31 Rotary clubs in a portion of Massachusetts. MacDuff is a member of American Society of Refrigeration Engineers and Refrigeration Service Engineers Society. Prior to entering the air conditioning and refrigeration field, he sang professionally on the concert stage. He is a past president of the Rotary club of Lynn.

DOUGH TESTER



Experiments in dough retarding are carried on in this special refrigerated cabinet designed for testing flour, bread, and pastry mixtures in the plant of the Russell-Miller Milling Co., Dallas, Tex. A constant temperature of 61 F must be maintained, with no more than one degree of tolerance at any time, and the Frigidaire "Meter-Miser" compressor mounted at the right of the cabinet does the job. The unit operates automatically.

Let's see what the **HANDBOOK** *says—"*

EVERY WEEK IN THE YEAR IT WILL PAY YOU TO CONSULT THE

COMMERCIAL REFRIGERATION AND AIR CONDITIONING MARKETING HANDBOOK!



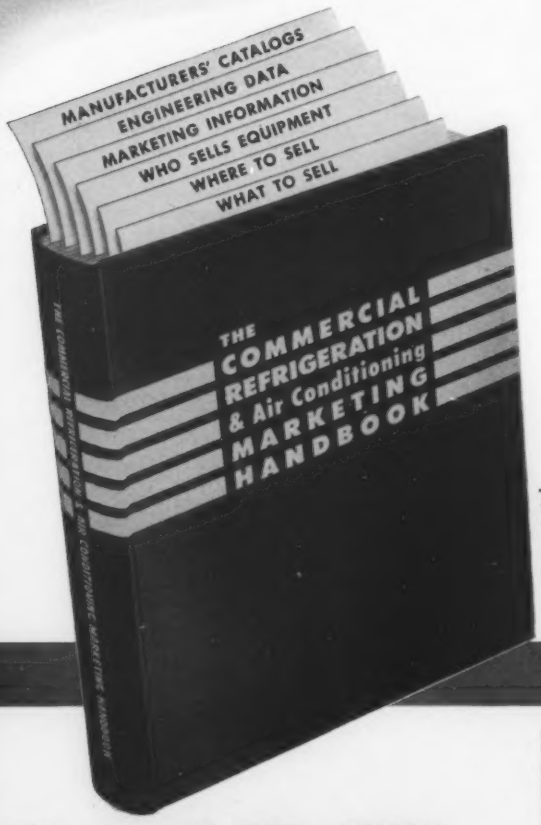
Here's the guide to greater profits for which dealers and their salesmen have been waiting. Here's an indispensable selling tool that points out *WHAT* equipment to sell, *WHERE* and *HOW* to do it. Here's vital information on every piece of air conditioning and commercial refrigeration equipment manufactured and where it is available.

The trade acclaimed our first announcement of the MARKETING HANDBOOK with enthusiasm. We say now that it will be even more complete—more informative than originally planned.

Salesmen and Contractors Cannot Afford to be Without This Business Building Source of Factual Information

There is commercial refrigeration data compiled in the MARKETING HANDBOOK that has never before been included between two covers. Think what it means to be able to have at your finger tips one carefully indexed source which covers:

- What equipment is used in 40 potential sales fields.
- The selling techniques of some of the most successful men in the business.
- Data on how, where and why certain equipment can be sold certain types of trade.
- The engineering data that will enable you to figure many jobs with no outside assistance.
- A cross index of (1) which manufacturers make each type of equipment and (2) an index of available equipment and who builds it.



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IT'S ALL IN THIS BOOK

- A listing of distributors by territory and lines carried.
- Trade names of all products to enable quick identification of sources of parts and equipment.
- A broad picture of today's vast market for commercial refrigeration and air conditioning equipment.

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Send me ..... copies of the Commercial Refrigeration and Air Conditioning Marketing HANDBOOK as soon as it is off the press. Pre-publication price $5.00 (postage paid). Please indicate which is enclosed:

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Signed.....

Name of Company.....

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NEW FULL LINE SERVES ANY HOUSING REQUIREMENT



MODEL TE62

Width, 23½", depth, on body, 20"; depth, over hardware, 23¾"; height, 50½". Net food storage, 6 cu. ft.; shelf area, 12.5 sq. ft. Nine pounds of ice per freezing. Eleven-point control. Attractively styled cabinet sealed against moisture.

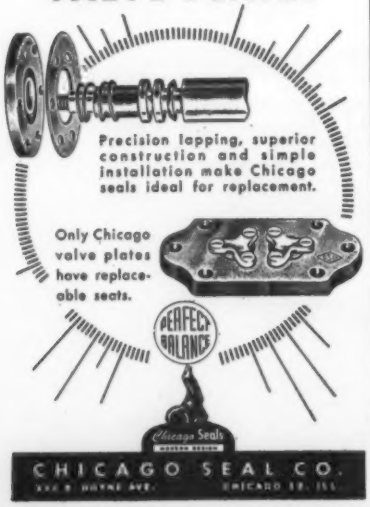
Model TE-62 is one of many trailer refrigerators in the new SANITARY line. Like all the others, it offers gleaming good looks, capacity combined with compactness, engineered strength to absorb shock, and low-cost service. It is a completely enclosed unit that doesn't require a cabinet recess. You can easily sell it for use in apartments, homes, offices or trailers. Write for complete details.

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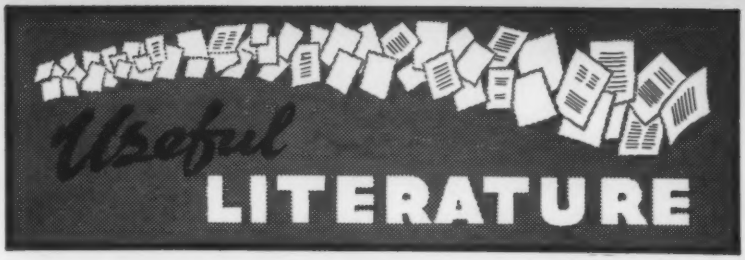
FOND DU LAC, WISCONSIN

PLAYSAFE

USE CHICAGO SEALS and VALVE PLATES



CHICAGO SEAL CO.



The publications listed below are available to readers without charge. Simply list on the postcard provided in this issue the key numbers of the items you wish to receive. Your requests will be forwarded directly to the companies concerned.

376—Self-Service Meat Cases . . . Pointers on how to cut, wrap, display, and sell self-service meats are attractively presented in this 16-page, 4-color brochure promoting the use of Hill self-service meat cases. Profusely illustrated, this booklet offers detailed instruction on meat preparation, and diagrams a suggested wrapping room layout. Available from C. V. Hill & Co., Inc.

377—Seals and Valve Plates . . . Bulletin 803 covering the Chicago line of valve plates and replacement seals, showing exploded views of both products and listing complete specifications of all models. Available from Chicago Seal Co.

378—Beer Dispenser . . . An illustrated specifications folder describing the "Koldaire" draft beer dispenser. Features are listed, faucet construction is shown, and key specifications are itemized. Available from Albert H. Bromann, Jr., Inc.

379—Soldering Manual . . . A complete analysis of the properties and application of soft solder alloys and soldering fluxes is contained in this 28-page technical manual entitled "Soldering and Soldering Technique". Available from Kester Solder Co.

380—Water Cooler . . . A 4-page illustrated folder listing complete specifications for the first electric water cooler in the 60th Anniversary line being produced by Cordley & Hayes. A capacity table makes possible rapid calculation of bubbler capacity at varying room and inlet water temperatures. Diagrams provide roughing-in dimensions and remote bubbler installation details.

381—V-Belt Drives . . . A 100-page manual intended to assist engineers in designing both multiple and light duty V-belt drives. Contains a comprehensive set of drive tables for multiple belts, complete sheave data, complete fractional horsepower drive layouts, and comparison tables with information on quarter turn drives and hexagon double V-drives.

382—Valves and Fittings . . . A 30-page catalog illustrating and giving complete specifications of the full Baker line of valves, liquid gauges, and other fittings for all types of commercial and industrial air conditioning and refrigeration installations. Available from Baker Ice Machine Co., Inc.

383—Thermocouples . . . Bulletin No. P1238 containing 56 pages of detailed information on thermocouples, protection tubes, and other pyrometer accessories. A technical section contains engineering data relating to the nature and use of these products. Available from Bristol Co.

384—Sealing Caps . . . A 6-page illustrated folder (No. CDP-589) describing G-E sealing caps and sleeves and their application in air conditioning, refrigeration, and allied fields. Physical and electrical characteristics of these products, as well as their resistance to heat, moisture, and chemicals, are tabulated. Available from General Electric Co.

385—Lathes . . . A 64-page, 4-color catalog (100-G) covering the complete line of South Bend lathes. Eight pages are devoted to attachments and accessories. Drawings show required floor space for each model. Available from South Bend Lathe Works.

386—Motor Starters . . . A line of alternating-current full voltage motor starters is described in this 12-page bulletin (14B7132). Construction features and uses of manual and magnetic across-the-line combination starters, reversing starters, and push-button control stations are described and illustrated. Available from Allis Chalmers Mfg. Co.

387—Replacement Seals . . . Complete 1949 stock and price lists on the Rotary line of mechanical seals for rotating shafts. Available from Rotary Seal Co.

PENN APPOINTS FORD LOS ANGELES MGR.

E. M. Ford has been named district manager of the Los Angeles territory for Penn Electric Switch Co. according to an announcement by R. H. Luscombe, general sales manager. He replaces W. H. Krack, former manager.

Ford, formerly assistant advertising manager of the company, has been with Penn Switch for 18 years.

The Famous KELVINATOR

Polarsphere

SEALED CONDENSING UNITS

NOW AVAILABLE TO DEALERS

IN ¼, ⅓ AND ½ H.P. SIZES



In answer to the demands of hundreds of refrigeration dealers, the famous Kelvinator *Polarsphere* is now immediately available to you for use in connection with new fixtures or new lowsides and lines. This opens up two big new profit opportunities for you, (1) the new fixtures you sell can now be offered to your customers equipped with the popular *Polarsphere* Unit and (2) you can modernize your customers old equipment with a new system including the finest sealed unit money can buy. Stop in and see these *Polarsphere* units at your Kelvinator distributor or zone office, or call or write for complete information. Kelvinator's complete line of *open-type* units from ¼ h.p. to 1 h.p. is also available for immediate shipment. Kelvinator Division, Nash-Kelvinator Corporation, Detroit, Michigan.

MODELS S-33—⅓ H.P., 115 volt, 50-60 cycle, A.C., capacitor start. Number of cylinders—2. Over-all dimensions—16½" wide, 18" deep, 12" high. Mounting dimensions—14½" wide, 16" deep. Suction line connection—⅜". Liquid line connection—¼" or ⅜". Net weight—107 lbs. Approximate shipping weight—128 lbs.

LOOK AT THESE POLARSPHERE FEATURES

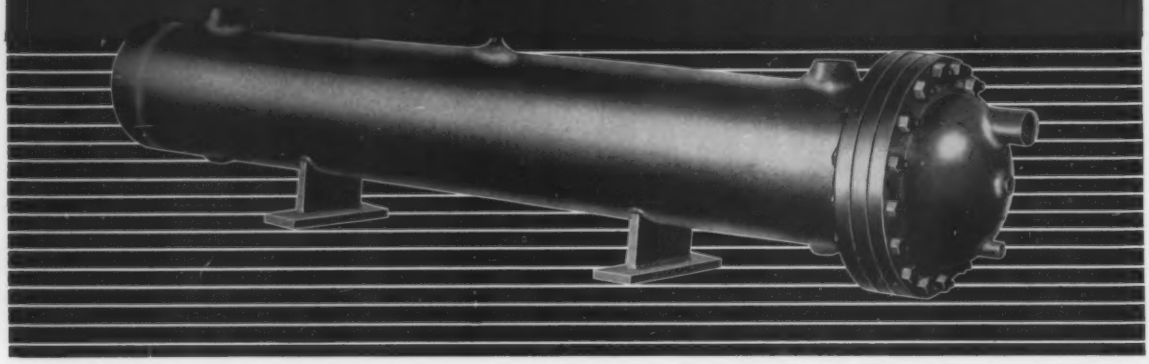
- Sealed-in-Steel Mechanism
- Centrifugal Oil-Circulating Pump
- Reciprocating Compressor
- Dynamically Balanced Rotor
- Air-Cooled Condenser
- Vertical Type Liquid Receiver

GET MORE . . .

Get Kelvinator

DEPEND ON KELVINATOR FOR ALL YOUR REFRIGERATION NEEDS

No Oil Traps! in this B&G Evaporator



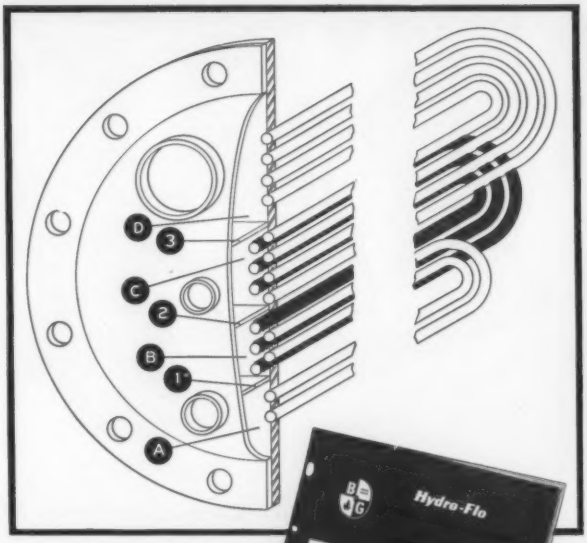
Unique design assures uninterrupted vapor and oil flow

The B & G Series "HR" Evaporator is not just another chiller! It offers distinctive design features which mean more efficient and dependable performance. Here's why—

A certain amount of compressor crankcase oil is picked up by the refrigerant during compression. If oil is continuously trapped in the evaporator, the oil in the compressor crankcase becomes depleted, which may cause bearing trouble. In addition, if the condition is not corrected, the system eventually becomes useless, because excessive oil in the evaporator reduces heat transfer.

The diagram at right shows how this trouble is prevented in the B & G Evaporator. Note that the lower tube in pass "B" leading to pass "C," and the lower tube in pass "C" leading to pass "D," is located very close to the baffle plate. This design permits any oil entering the passes to travel freely with the Freon vapor back to the compressor. *There is no step-up or sump to trap oil!*

You'll want complete engineering data on this outstanding Evaporator—write today for Catalog BJ-848.



B & G Direct Expansion Evaporators are constructed according to U-29 Code of ASME regulations and can be certified by Hartford Steam Boiler and Inspection Service for 150 lb. working pressure on both Freon and water side.



Hydro-Flo*

REFRIGERATION EQUIPMENT

BELL & GOSSETT COMPANY

Dept. RAX-45, Morton Grove, Ill.

NEW Products

For further information on any of these products, simply list on the postcard provided in this issue the key numbers of the items in which you are interested. Your requests will be forwarded directly to the companies concerned.

Ice Cubers • • • • • P-357

Product: Fully automatic ice cubers for producing cubes at point of use.

Manufacturer: Ice-Flo Corp., Lonsdale, R. I.

Features: Table-height units available in various sizes, automatically producing from 1320 to 12,500 cubes per day in single or multiple



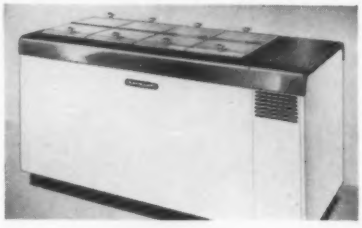
installations. Finished in stainless steel. Freezes cubes of two different sizes. Evaporator has no moving mechanical parts. Equipped with standard Freon-12 condensing units. Cubes are frozen in molds which form the bottom of a water tank. As soon as cubes are frozen solid they are automatically defrosted and float to the top of the water in the tank. Upon reaching the surface, the water carries the cubes over a dam and deposits them in a dry storage bunker. Cubes do not mat together.

Ice Cream Cabinets • • • P-358

Product: New line of self-contained ice cream cabinets featuring full length storage compartments and up to 50% more storage capacity.

Manufacturer: Frigidaire Div., General Motors Corp., Dayton, Ohio.

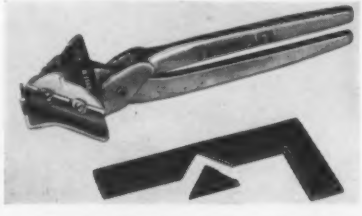
Features: New condenser arrangement is revolutionary in design and simplified in construction. Built of ⅜-inch copper tubing, the condenser is mounted underneath the cabinet and held in place by "U"-



shaped channels. Both channels and bottom panel serve as fins to help dissipate the heat. Air is drawn from underneath the cabinet at floor level by a fan in the machine compartment. Entering at one end of the base, this air passes over condenser while traveling full length of cabinet, then moves upward through machine department and out through grilles near top, providing "chimney" effect in machine compartment which causes natural air circulation independent of fan and prevents floor dampness beneath cabinet. Meter-Miser compressor mounted in a compartment at one end of the cabinet, eliminating conventional shallow sleeve section. Entire compressor can be removed without disturbing condenser. Available in single and double row cabinets, in sizes ranging from 4 to 10 holes, with storage capacities ranging from 6.2 to 17.1 cu. ft.

Gasket Notcher • • • • P-359

Product: Plier-type gasket corner notcher which makes it possible



to cut gaskets directly on refrigerator doors.

Manufacturer: Techniflex Corp., Port Jervis, N. Y.

Features: Removes guesswork from gasket installations by means of center indicator line enabling the 90-degree mitred cut to be located exactly at the point where the corner is desired. Plier-type construction eliminates need for pre-notching or removal of gasket from doors, thus saving time and reducing spoilage. Light weight pliers made of high grade aluminum alloy, heat treated to insure high tensile strength, are designed to permit quick, low-cost, replacement of tempered precision blades in the event of nicking.

Evaporative Condensers • P-360

Product: Line of evaporative condensers for Freon and ammonia refrigerants in range from 3 to 50 tons.

Manufacturer: Kennard Corp., St. Louis, Mo.



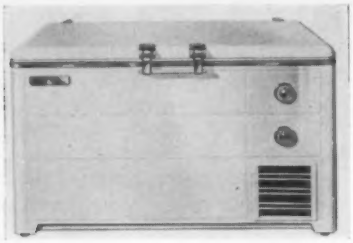
Features: All prime surface coils with copper tubes hydraulically expanded at 3000 psi into copper tube sheets with ferrule collars, thus avoiding vibration failures at tube and tube sheet junction. Brazing scale loosened by hydraulic stretching and blown out of coil, safeguarding compressor against scoring. Frame members so designed as to make possible multiple service and access panels in the welded frame assembly. Hot-dipped galvanized steel coil assemblies used for ammonia models. Copper spray headers. Heavy steel coil side frames, galvanized after fabrication. Hot-dipped galvanized sump pan, blower, and coil frame sections, wheels, and scrolls.

Home Freezer • • • • • P-361

Product: 12.5 cu. ft. home and farm freezer.

Manufacturer: Ben-Hur Mfg. Co., Milwaukee, Wis.

Features: Styling features vertical and horizontal indented lines. Dual latches joined by convenient



handle provide easier opening and closing of the counter-balanced lid. One-piece lid forms table-top surface. Temperature indicator and cold control dials are of patented construction to minimize the possibility of tampering by children. A screwdriver or the edge of a coin must be used to operate them. Also available in 9.1 and 18.45-cu. ft. sizes, with capacities varying from 450 to 900 pounds of frozen food. All have separate freezing compartments. New wire food baskets and dividers are standard equipment. Five year warranty on condensing unit and one year warranty on component parts.

Ice Cream Freezer • • • P-362

Product: Model 10FCR 10-quart Taylor Freezer with self-contained compressor.

Manufacturer: Tekni-Craft, Beloit, Wis.

Features: Redesigned and reengineered to provide a freezer equally suitable for ice cream, soft ice cream, frozen malted, or any other



frozen dessert. Will freeze cold and stiff for serving direct from freezer or will make ice cream with 100% overrun for drawing into cans or packages. Newly designed and more heavily powered stainless steel beaters aid in rapid ejection. Tests have shown that a batch frozen down to 20 F can be ejected in 1 minute, with all but a pint or less being drawn off. Beater motors are rubber mounted for quiet operation. Gears are all steel for increased load capacity. Improved temperature control holds product with less than 2 degrees differential. All switches completely enclosed.

Check Valve • • • • • P-363

Product: "Midge-Valve" universal all-position check valve that checks suction leaks in commercial and domestic refrigerators.

Manufacturer: Hydrovalve Co., New York City.

Features: Solves common problems of defrosted evaporators, large electric bills, noisy and laboring starts and short cycling. Installed on rebuilt hermetic jobs to check leaks even before they occur. Precision constructed with flared ends for speedier on-the-job installation. Stainless steel spring and disc, soft

Fastest Selling Line
OF WELDED-STEEL
Refrigerators-Display Cases



Leaders in the Tyler Line . . . always growing, always improving!



Tyler's Tops in commercial refrigeration equipment—with a complete, store-tested line of fast-selling, *welded-steel* refrigerators and display cases for groceries, markets, restaurants, hotels, institutions, bakeries, taverns, drug stores and florists.

IT'S TYLER
FOR FOOD REFRIGERATION

FOR ADDITIONAL INFORMATION, WRITE TYLER FIXTURE CORPORATION, NILES, MICHIGAN

electrolytic copper gasket and diamond finished seat. Made from specially processed extruded brass rod. Assures free flow with no pressure drop. Available in three sizes: ¼ inch, 5/16 inch, and ⅜ inch.

Portable Case • • • • P-364

Product: Model DC-6-2 portable frozen food display case for "spot" sales of frozen food or ice cream products.

Manufacturer: Brewer-Titchener Corp., Binghamton, N. Y.



Features: Cabinet measures only 23½ inches wide, 37½ inches long, and 36 inches high, yet holds 190 average frozen food packages in its 5½-cu. ft. interior. Use of "Santocel" insulation permitted reduction of wall thickness without sacrificing performance. Smooth rolling casters within the recessed toe space make the unit readily movable, even when loaded with food. Low level superstructure (only 54 inches high) makes it possible to spot case in any part of store without obscuring customer view. Completely self contained. Top of cabinet is stainless steel; balance of exterior is white enamel. Full-length mirror and removable night lid available.

Refrigeration Oil • • • • P-365

Product: All-purpose refrigeration oil.

Manufacturer: Ansul Chemical Co., Marinette, Wis.

Features: Equally suitable for household refrigerators, deep freezers, meat counters, domestic and commercial cold storage locker plants, and all other refrigeration and air conditioning applications. Does not separate wax down to -70 F in oil-refrigerant mixtures. Tested for low moisture content, low wax content, and high stability. Laboratory tests show that the oil has a low pour point and will not decompose to form sludges or acids. Packaged in 1-gallon cans and sold through refrigeration wholesalers.

Water Regulator • • • • P-366

Product: Model W Series 2000 modulating condensing water regulator.

Manufacturer: Metrex Valve Co., Franklin Park, Ill.

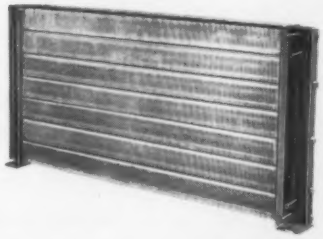
Features: Available in sizes from ⅜ inch to 6 inches for use with Freon-12, Freon-22, methyl, sulphur, and ammonia. Offers 95% of valve capacity on a 15-pound increase in head pressure, and valve closes tight on 5-pound decrease in head pressure under opening point. Supply line water pressures up to 150 pounds gauge are counter balanced by an ad-



BY NEW HEAT-X-CHANGER COMBINATION AIR AND WATER COOLED CONDENSERS

When air cooling of refrigeration condensers takes a summer vacation water cooling automatically takes over as a temporary worker.

The new Heat-X-Changer Combination Air and Water Cooled Condenser now makes available the capacity and performance advantages of the water-cooled condensing unit combined with the economy of operation of the air-cooled unit.



The air surface is sufficient to carry the load until the air temperature available rises above 80°F. Then the water valve opens to admit the minimum amount of water necessary to keep the compressor head pressure at the desired point. This means a 94% saving of water every year.

Here indeed is a compact, readily adaptable condenser of attractive appearance which is economical to install and to operate. It has cleanable water tubes, too!

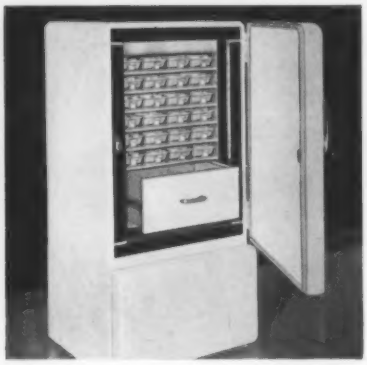
Write for literature on this amazing new 2-in-1 unit.

THE HEAT-X-CHANGER CO., INC.
415 Lexington Avenue, New York 17, N.Y. Brewster, N.Y.

justable spring. Shut-off is positive. No packing is used. Body is bronze and seats are stainless steel. No pistons or rubber sleeves used. Sealed lubrication.

Upright Ice Maker • • • P-367

Product: Model 7-IM upright ice maker for the freezing and storage of ice cubes.



Manufacturer: Jordon Refrigerator Co., Philadelphia.

Features: Equipped with 24 ice cube trays producing 336 cubes per freezing and under normal conditions delivering approximately 3½ to 4 freezings per day for a total of approximately 1400 cubes or 200 pounds of ice daily. Storage drawer holding complete freezing of 336 cubes for immediate use while an additional supply is being frozen operates on ball bearing rollers. Exterior dimensions are 57⅝ inches high, 26 3/16 inches wide, and 25 7/16 inches deep. Exterior styling resembles that of household refrigerator. Exterior finish is hi-baked white enamel on bonderized steel.

Room Cooler • • • • • P-368



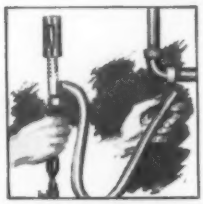
Product: Model 51H2 Deluxe Console type room air conditioner.

Manufacturer: Carrier Corp., Syracuse, N. Y.

Features: 1-hp unit for use in larger than average rooms and replacing previous ¾-hp and 1½-hp units. Designed in two-tone, mar resistant brown finish. Special exhaust control for the quick removal of stale air and smoke, and a two-speed fan for draftless air distribution. Compressor and motor are hermetically sealed. Compressor starts unloaded, thus requiring lower starting current. Simplified, clearly marked controls make unit easy to operate. Two-knob control panel concealed behind hinged cover. Space provided in center of panel for a thermostatic control knob for automatic operation. Standard model operates on 230 or 208-volt, single phase, 60 cycle current. Outlet grille on top of cabinet permits deflection of air supply as desired. Five-year warranty.

Prest-O-Lite Trade-Mark HALIDE Leak Detector





Quick—Always ready for use. Lights instantly. Locates exact source of leak in a few seconds. Avoids waste of refrigerant gas and costly shut-downs of equipment. An indispensable test unit for service and installation kits.

Sure—Reacts instantly to smallest concentrations of any of the non-combustible halide refrigerant gases (F-11, F-12, F-21, F-113, F-114, Carrene) commonly used in domestic or industrial systems.

Simple—Small, light, and handy. Easy to use anywhere. Durably built and dependable. No delicate parts to get out of order.

• For more details, see your jobber or write The Linde Air Products Company, 30 E. 42nd St., New York 17, N. Y. In Canada: Dominion Oxygen Company, Limited, Toronto.

"Prest-O-Lite" is a trade-mark of The Linde Air Products Company, a Unit of Union Carbide and Carbon Corporation.

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Marley patented Spray NOZZLES are used by industries where efficiency and economy are required.

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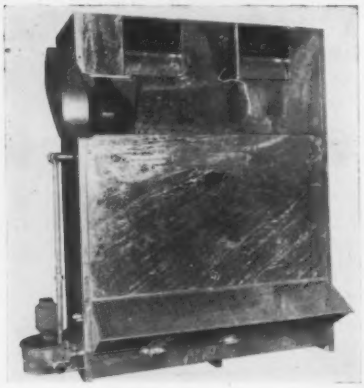
THE MARLEY CO., INC.
KANSAS CITY 15, KANSAS

Evaporative Condenser • P-369

Product: 1949 model evaporative condenser.

Manufacturer: Acme Industries, Inc., Jackson, Mich.

Features: All steel parts, including wheels and scrolls, completely



hot-dip galvanized after fabrication. Units are assembled using stainless steel nuts, bolts, and screws. Performance results in unusually large water savings. Pipe coils are all prime surface. AP and FP models are built with ¾-inch steel pipe coils, hot-dip galvanized after fabrication. FC models are made with copper tubing coils. Base sump is built of 11-gauge wheels, 11-gauge bottom panel and 14-gauge rear panel, with all welded, galvanized construction. Micromet water treatment basket is included in base sump. Blowers are die formed heavy gauge steel scroll with center suspension wheel. Shaft mountings have self-aligning sealed ball bearings encased in sturdy flanges.

Patch Kit • • • • • P-370

Product: No. 902 refrigerator patch kit.

Manufacturer: General Cement Mfg. Co., Rockford, Ill.

Features: Kit for repairing nicks or dents on any type of refrigerator. Contains everything necessary to do a perfect patch job on either porcelain or Duco finish. No special skill required to use this kit. Kit consists of metal box containing a bottle of pure white lacquel enamel; bottles of tinting colors in yellow, blue, brown, and black; bottle of solvent; porcelain patch stick; spatula; steel wool; sandpaper; and brushes. Porcelain patch sticks also are available separately.

Dial Thermometer • • • P-371

Product: Heavy duty dial type thermometer.

Manufacturer: Qualitrol Corp., East Rochester, N. Y.

Features: Pointer indications may be read from almost any position, because concave dials are curved at indicating graduations. Choice of seven temperature ranges from —90 to 1000 F. Dial sizes are 2, 3 and 5 inches. Connecting nut and stainless steel stem will withstand pressures in excess of 2500 psi. Cases are hermetically sealed and pointers show no oscillation under extreme vibration conditions.

Room Conditioner • • • P-372

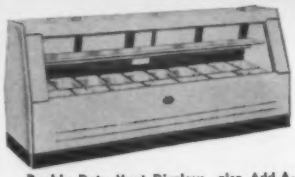
Product: Aristocrat (Model 12W) console type room air conditioner intended for the largest rooms and most severe conditions.

Manufacturer: Remington Air Conditioning Div., Remington Corp., Cortland, N. Y.

Features: A 1½-hp water cooled



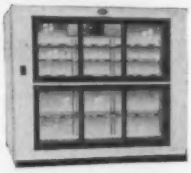
THE COMPLETE FEDERAL LINE FOR '49



Double Duty Meat Displays, also Add-A-Section Top Displays, Easily Adapted to Continuous Type Display.



Open Cases for Fresh Fruits, Vegetables, Dairy Products or Packaged Meats.



Self-Service Reach-in



Delicatessen Display or Bakery Display



Walk-in Cooler



Combination

There is a Federal Refrigerator for every commercial purpose. From Wall Dairy Cases to Walk-ins, Reach-ins, Small Space Displays, etc. Merchants everywhere attest to increased sales, when Federal Cases go in!



Reach-in

Send for Data on the Food Saver Selling plan. Ask about desirable territories still available.

Made by **Federal**
REFRIGERATOR MFG. CO.
Waukesha, Wis.



unit offering a cooling capacity of 13,700 to 15,000 Btu per hour. Heating is optional at 7000 Btu per hour. Housed in imported wood cabinets with buyer's choice of mahogany or blond finish. Available for either a.c. or d.c. Nine other models, including both console and window type coolers, are available in the company's line.

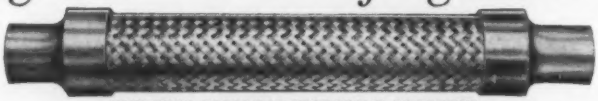
Combination Units • • • P-373

Product: 1949 models of "Lockrator" combination household refrig-

specially designed to eliminate

NOISE and VIBRATION

throughout ANY refrigerant system!



THE NEW PACKLESS VIBRATION ABSORBER
especially designed and manufactured for the specific needs of the air conditioning and refrigeration industries.

Noise from excess vibration, caused by pulsating gases or liquids throughout any system, *is* entirely eliminated by the design of the Packless Vibration Absorber. In addition, these Vibration Absorbers absorb line shock and prevent damage and resultant service interruption from broken refrigerant lines. Unconditionally guaranteed on all rated applications when properly installed.

SEND FOR NEW BULLETIN—COMPLETE DETAILS
Write for our new Bulletin VA-2 containing complete details, description, illustrated application data, operating specifications and suggested installation procedure. No obligation, of course.



PACKLESS DISTRIBUTORS ARE A DEPENDABLE SOURCE OF SUPPLY

974

PACKLESS
METAL PRODUCTS CORPORATION
NEW ROCHELLE, NEW YORK

erators and home freezers.

Manufacturer: Stoddard Mfg. Co., Inc., Mason City, Iowa.

Features: Design features full length door and "across the top" freezer compartment. "Ceiling cool-



ing" gives indirect high humidity to food compartment proper. 9-cu. ft. model is only 27 inches wide; 13-cu. ft. model is only 31½ inches wide. Hinged colored glass door on freezer compartment is constructed so that it must be either completely open or completely closed. 13-cu. ft. model has 2.25-cu. ft. freezer compartment; 9-cu. ft. model has 1.2-cu. ft. freezer. Both models include extra-moist vegetable crisper, tip-out dry vegetable storage bin, defrost water jar and four ice trays. Powered by Tecumseh hermetic condensing unit which is readily accessible from the front of the cabinet.

Pressure Regulator • • • P-374

Product: Single stage carbon dioxide pressure regulator (Model 4C2).

Manufacturer: C. A. Norgren Co., Denver, Colo.



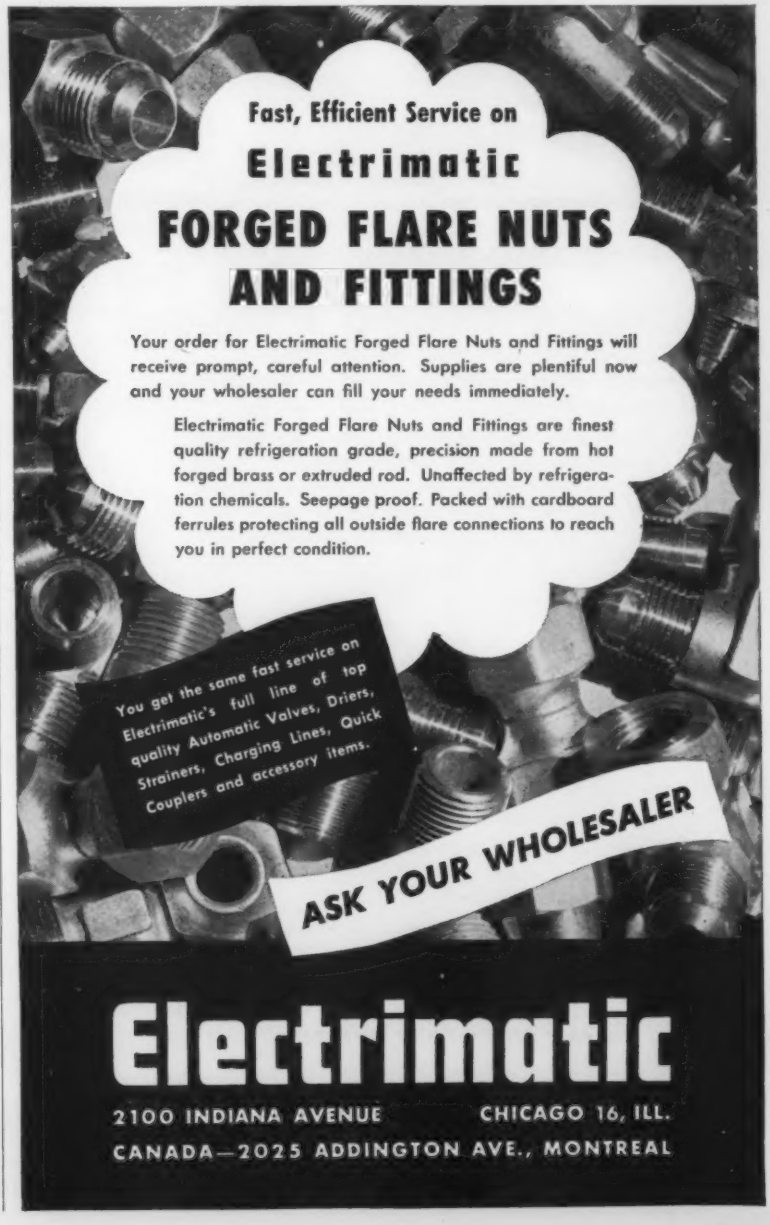
Features: Controls flow and pressure as accurately as most two-stage types. Holds secondary pressures to extremely close limits regardless of decreasing pressure in the CO_2 tank. Once set, line pressure remains constant. Permits easy field maintenance. Can be dismantled without removing regulator from tank. Requires little space for installation, measuring only 5⅞ x 3⅞ inches overall.

Evaporative Cooler Pump P-375

Product: Model 1089 rubber impeller pump (ball bearing line) for evaporative cooler use.

Manufacturer: Jabsco Pump Co., Burbank, Calif.

Features: Designed to fit all makes and models of evaporative coolers. Port size is ⅜ inch, and a capacity up to 100 times the evaporation rate may be achieved, more than ample to keep the filter pads at full saturation efficiency. Capacities range from 65 gph at 500 rpm to 240 gph at 1750 rpm. Pump is driven by fan motor. For coolers of less than 7000 cfm capacity, pump is coupled direct to the blower shaft.



ABOUT PEOPLE . . .

Continued from page 43

Corp., will continue in that capacity. Formerly he was national sales manager of Refrigeration Corp. of America.

●

Keystone Wagon Works, Philadelphia manufacturer of refrigerated truck bodies, has announced the appointment of **George F. Varga,** Forest Hills, N. Y., as factory sales and engineering representative. Varga was formerly assistant sales manager of American Mfg. Co., Corona, N. Y., manufacturer of truck and trailer refrigeration equipment.

●

W. B. (Bill) Owens has been appointed special sales representative for Wilson Refrigeration, Inc., Smyrna, Del., manufacturer of commercial refrigeration equipment. Owens has served as purchasing agent for Wilson since his discharge from the Army about three years ago. His new responsibility will be to establish a closer working relationship between the factory and its distributors and dealers.

●

W. H. Magee has been appointed general sales manager of Russell Electric Co., Chicago subsidiary of Raytheon Mfg. Co. During the past four years, Magee has been midwest sales manager of U. S. Gauge Co. Div., American Machine and Metals, Inc. Previously, he served as chief of pressure instruments on the War Production Board in Washington from 1942 to 1944. Russell Electric manufactures fractional horsepower alternating current induction motors of shaded-pole and capacitor types, used principally by manufacturers of fans, appliances and air-conditioning equipment.



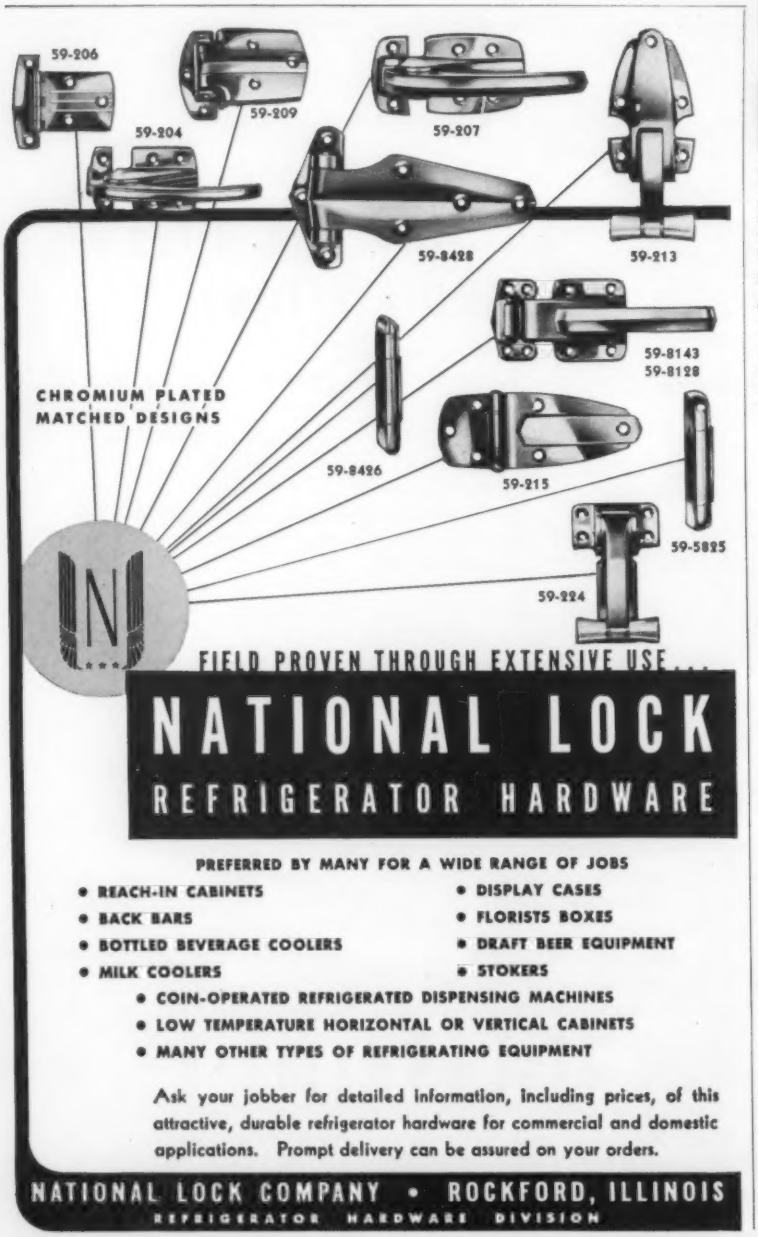
●

Norton R. Miller has joined United States Air Conditioning Corp. as manager of the company's eastern sales division which includes the New England states, part of New York State and part of Pennsylvania. This sales division will continue its headquarters at the company's New York office. Miller formerly was associated with Trane Co. in New York for 11 years, as well as with Airtemp Div., Chrysler Corp., and with several air conditioning engineering firms.



●

Weber Showcase & Fixture Co., Inc., Los Angeles, has announced the following appointments: **Pat Peluce,** assistant general sales manager, **John D. Haidinger,** advertising and sales promotion manager, and **Fred M.**



Schulz, manager of dealer sales. Peluce, who has been connected with the company for the past 23 years, has served in various administrative capacities. Haidinger has been in charge of the firm's sales promotion department. Schulz, who has been with Webers for the past nine years, was recently transferred from Chicago, where he acted as district representative.

●

E. J. Campbell, sales representative for Wolverine Tube Div. in the Grand Rapids, Mich., area, has been promoted to assistant manager of



Campbell



Seekell

midwestern sales. Campbell will headquarter in the company's Chicago office and assist in the supervision of sales throughout nine midwestern states. **S. C. Seekell,** formerly sales manager for Westinghouse Electric Supply Company, has been appointed to succeed Campbell as sales representative in western and southwestern Michigan.

●

Baker Ice Machine Co., Inc., has announced the appointment of **H. H. Paltridge** as special sales representative in New York City. Paltridge has been engaged in air conditioning and refrigeration work since 1932, with the exception of the war years when he served with the U. S. Naval Civil Engineers Corps. Upon release from active duty, he became chief engineer and later general manager of Goodsell Corp.

●

In a four-way personnel shift, Frigidaire Div., General Motors Corp., has announced that **R. E. Robertson,** since 1932 manager of the company's Oakland branch has been transferred to the Pacific region as assistant to the regional manager. **H. J. Miller,** manager of Frigidaire's Oklahoma City branch for the past two years, has been named to succeed Robertson at Oakland, while **L. A. Hanlein,** appliance sales manager of the Pittsburgh branch, succeeds Miller, and **Howard L. Burns,** factory laundry equipment representative, succeeds Hanlein.

●

Black, Sivalls & Bryson, Inc., has announced the appointment of **General Harlan L. Mumma,** U.S.A., retired, as world export manager of the company with headquarters at 30 Rockefeller Plaza, New York City. **Earl Ruth,** formerly sales engineer in the company's Kansas City executive offices, has been appointed to General Mumma's staff as consulting engineer.

●

Hiland G. Kirkwood has been named general service manager for Mills Industries, Inc.

DISTRIBUTORS! DEALERS! SALESMEN!

You'll be

MONEY AHEAD

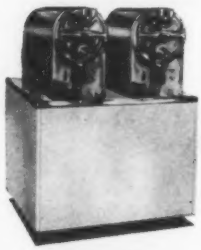
selling Taylor Freezers



MODEL 10FCR

NEW 1949 MODELS
COVER ALL MARKETS 100%

More Sales! More Profits! The great new Taylor Freezers give you more sales opportunities than any other freezer. They cover the entire market in two important ways: (1) They make any frozen dessert because they freeze cold and stiff for serving direct from the freezer or give full 100% overrun for ice-cream. (2) They are available in a wide range of models that meet all requirements for volume. No one model can meet all market requirements—no one freezer can give you complete coverage.

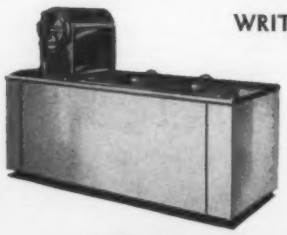


MODEL 20F2R

MOST PROFITABLE FREEZER TO SELL

You make more money selling Taylor Freezers. They're easier to sell because there's a model for every need . . . because Taylor has the best reputation . . . because it is the only freezer proved by continuous, uninterrupted service since 1926 . . . because it is backed by the most powerful and consistent advertising . . . because we have had more experience than anyone else. *And Taylor Freezers give you the discount you need for profits!*

WRITE NOW—FEW TERRITORIES OPEN



MODEL 2060
MANY MODELS
Most Complete Line Gives Most Complete Coverage

TEKNI-CRAFT,
Beloit, Wisconsin

Please send me information on a Taylor Freezer distributorship. Attached is an outline of the territory we cover and of our organizations facilities for sales and service.

Name.....

Address.....

City, State.....

7000 SILENT SALESMEN . . .

Continued from page 45

and present sales figures with their estimate of possible future revenue based on their experience in scores of similar situations.

The specific recommendations made by this battery of experts include advice on such matters as the proper type and arrangement of dry produce racks, shelving, and gondola displays, as well as on the refrigeration equipment itself. The effectiveness of the plans for any one of these phases of his business frequently leads the merchant to sell himself on the complete remodeling job, Allied executives have found, even if his budget cannot stand the cost of such an operation all at one time.

Allied makes no attempt at trying to force the sale of a lot of equipment the store owner can neither afford nor use, preferring to sell a single piece of equipment such as a walk-in cooler which can serve as a "starter" toward an eventual complete remodeling job.

If the customer wishes, he may buy a whole store full of equipment on a one-piece-at-a-time basis. In all such cases, however, Allied draws up a complete store plan for the merchant before the first piece of equipment is sold.

Proves Plans Profitable

The thoroughness of this store survey and store planning service stems directly from the conviction of George B. Herman, president of Allied and former president of the National Commercial Refrigerator Sales Association, that no real businessman installs new and costly equipment without some assurance that the investment will pay off by boosting both sales and profits. On the other hand, he is convinced, every merchant is in the market for new ideas that will bring him new customers.

Herman became aware of these basic facts when he first started in business. He found that his firm's best customers were those grocery stores and meat markets which gave considerable attention to the proper arrangement of store fixtures, display shelves, counters, and refrigeration facilities. Stores with cluttered, unplanned interiors, he observed, not only were doing a poor business but also were proving to be Allied's poorest customers.

Produces Own Shelving

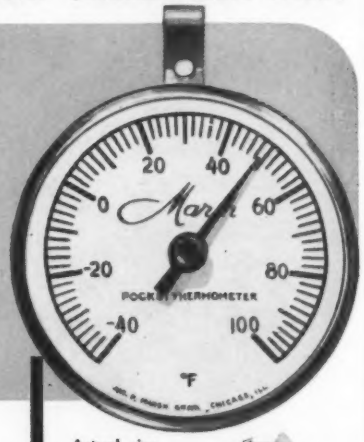
These facts turned Allied's attention to proper utilization of floor space—how and where shelves, counters, frozen food cabinets, walk-ins, reach-ins, and other equipment should be placed in order to increase productivity of the store's available space.

This development soon started Allied on its own manufacturing venture—all a part of its overall planning operation—in which it produced low-cost shelving in conjunction with the refrigeration facilities which it offered.

Now Allied boasts that its services to grocery stores include just about everything but the actual groceries. As distributor of Hussmann refrigeration, the firm can service a customer with any type of store fixture desired. Its supplementary lines of equipment cover everything from price tags to grocery carts. This is just another added service which Allied has found

Handiest and best Pocket Thermometer ever!

THE *New* MARSH POCKET THERMOMETER



It's watch-like in size and style. Easy to read in poorest light. Highly accurate. Has "Recalibrator slide" to keep it accurate. Rugged—in handsome, polished case of durable, heavy-gauge stainless steel. Unbreakable crystal. Sold at an unbelievably low price.

No guessing at error caused by handling or room temperature as with hard-to-read glass tube thermometers. Just place this instrument in freezing compartment, close refrigerator until temperature registers, open refrigerator and instantly read temperature on clear, legible dial.

This is a handy addition to every refrigerator serviceman's kit, developed by Marsh out of 80 years' experience in precision-instrument making.

JAS. P. MARSH CORPORATION
DEPT. P, SKOKIE, ILLINOIS

Actual size above (2-3/16" diam.) Typical Marsh value. $2.00





Clip holds Thermometer in pocket; also serves as hanger when used in refrigerator. Clip swivels to fit any position.

If ever knocked out of adjustment Thermometer has this "Recalibrator slide" for quickly correcting it to a thermometer of known accuracy.



Your Jobber has it in stock

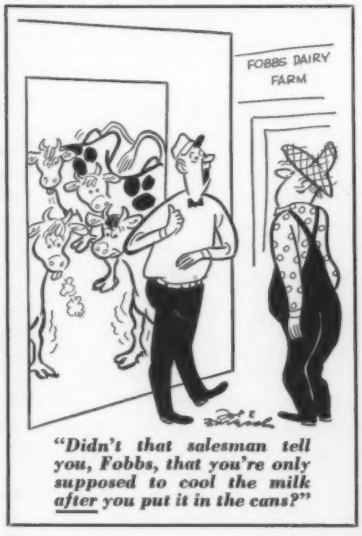
MARSH

BUY FROM YOUR WHOLESALER

Refrigeration Instruments

pays off in customer goodwill and which frequently serves as a lead to the sale of more expensive equipment.

Allied has 15 full time salesmen covering a large midwest territory which includes Minnesota, North and South Dakota, western Wisconsin and bordering areas. These salesmen call on stores they believe to be needy of improvement services. If the prospect seems the least responsive, they will sketch a rough of the store as it is and mail it in to the firm's headquarters. Immediately, Allied's engineering staff goes to work, drafting a suitable plan for modernizing or rebuilding the store. This plan, when completed, is shown to the prospect, who in most instances is very impressed by this visualization of his "new" store.



"Didn't that salesman tell you, Fobbs, that you're only supposed to cool the milk after you put it in the cans?"

In Allied's shop five employees keep hard at work constructing coolers, shelving, and other equipment. Two shopmen are kept in the field, and on big jobs extra labor is hired.

Locker plant layouts are an additional service of Allied's engineering department.

A typical Allied store planning operation considered was the recent remodeling job of a 48 by 130' supermarket in St. Paul, Minn. As a result of the addition of more space and a complete facelifting of refrigeration equipment, Mr. and Mrs. M. Senensky's Central Super Market more than doubled their sales volume within a few weeks after reopening their new store.

The new market, designed by Allied, includes a 7-foot open display self-service frozen food case, a 10-foot open self-service refrigerated produce case, 11 feet of self-service meat cases, and 7 feet of self-service dairy cases. Allied also installed a 10 x 20-foot walk-in meat cooler of its own construction, an 8 x 10-foot vegetable walk-in, and a specially constructed overhead canopy for the meat department, with plate glass mirrors giving an effect of added depth to the big store.

In addition Allied furnished Senensky's store with four modern checkout counters, 72 feet of 4-shelf wall shelving and 134 feet of 3-shelf center island gondolas.

In planning this store, Allied's engineers devoted floor space to each type of merchandise in proportion to profit realized from that merchandise. All areas were departmentalized, with related items placed together in such a way that traffic flow would be directed to the displays.

The meat department was installed across the store's rear with mirrors built to give the effect of store depth. The meat cooler was rearranged (see



Every man who works with his hands—whether he is a mechanic or white collar chap who occasionally putters at home — is a hot prospect for **QUICKEE**, America's fastest-selling **Waterless** Hand Cleaner.

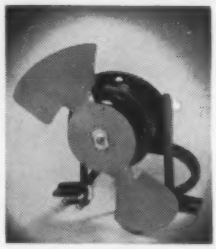
QUICKEE quickly chases paint, grime, grease, tar, adhesives, etc. A little dab, a quick wipe-off on a rag or paper towel and hands are clean enough for the dinner table.

More and more Dealers are finding that it is profitable to display QUICKEE in the compact counter display—because it's such a wonderful impulse item. Sold in 35c tubes and in cans from 13 oz. to 35 lbs. Push the profit line in '49—it pays. How about starting today!

TUDOR CHEMICAL SPECIALTIES, INC.
NEW YORK 13, N.Y.

SPECIFY
DELAVAN
WHEN YOU NEED
CONNECTING RODS

A Complete Line of
Compressor Replacement Parts
DELAVAN
MANUFACTURING
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3009 SIXTH AVENUE
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THE ANSWER TO
CONDENSER FAN
REPLACEMENTS

G. E. UNIT BEARING MOTOR
- Self Lubricating
- Small Size
- Quiet Operation
- Suction Fan

NO. 6 FOR DOMESTIC UNITS
With 2 Blade Fan 7¼" OD
@ $10.50 List. $6.75 net to dealer

NO. 2 FOR COMMERCIAL UNITS
With 4 Blade Fan 8¾" OD
@ $12.50 List. $7.90 net to dealer

ELECTRA
DISTRIBUTING COMPANY
1914 West End Ave., Nashville, Tenn.

NOW!
SUB-ZERO MILK COOLERS
with the
Cascading Water PRINCIPLE
FAST, UNIFORM, CONVENIENT COOLING

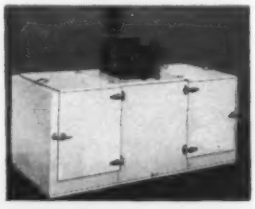
An entirely new principle . . . Cascading Water . . . makes it easy to sell Sub-Zero milk coolers. Chilled water is cascaded over the cans . . . providing complete, economical, fast cooling. Uses a minimum of water . . . equipped with an efficient pump, a dependable compressor.

THE 8 CAN DELUXE COOLER
Coolers for 6, 8 and 12 can capacity are available. Illustrated is the 8 can De Luxe Model. Note front and top doors for easy can storage and removal. Interior is heavy galvanized metal . . . exterior is infra-red baked white enamel.
For Information, Write
SUB-ZERO FREEZER CO., Inc.
MADISON, WISCONSIN

diagram) so that it would save steps for the butcher running back and forth from counter to cooler. A sidewalk loading chute was installed.

A half-basement was built, utilizing only the original basement area. The stairway to the basement formerly in the rear, was placed in the center of the store so that merchandise brought up could be distributed with minimum amount of steps. Surplus carton disposal space and incinerator were built in rear. At the front a carton area was built near check-out counters for customers with heavy purchases.

All these merchandising factors are taken into consideration when Allied prepares a store plan. They have found from experience that such thoroughness pays.

WAGNER EXPANDS LINE OF DRIP-PROOF MOTORS

Wagner Electric Corp., which has built drip-proof motors in frames 225 and smaller for many years, has adopted the same design for its polyphase motors in the 254, 284, 324, and 326 frames.

The motor frames of the new design are almost exactly like those of their prototypes, differing from them only in the omission of all ventilating openings. They are formed of heavy rolled steel, shaped to accurately center the stator core and to provide passages between the frame and the core for ventilation.

An auxiliary fan, larger in diameter than the armature of the motor, draws in air through the openings in the front endplate, forces it through these passages and out through the endplate openings on the drive end. Heat is effectively carried off from all parts of the motor.

Screens on the endplate openings give added protection by preventing rags, paper or similar articles from being drawn into the motor, and they also prevent the entrance of rodents and other small animals.

Both sleeve-bearing and ball-bearing motors of the new design are completely drip-proof when mounted in the normal horizontal position, and, when the endplates have been correctly rotated, these motors are still drip-proof in the sidewall or ceiling horizontal positions because they have no openings in the frames.

New GR self-contained AIR CONDITIONERS

give you these features that SELL

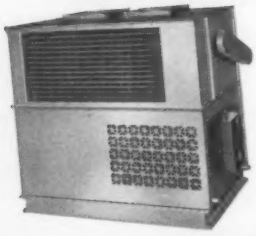


General Refrigeration unit air conditioners are available in two models — the 3-ton GR 312 and the 5-ton GR 520.

DIRECTIONAL DISCHARGE GRILLE All-aluminum grille can be easily adjusted to direct cooled air at various angles. Large blower capacity.

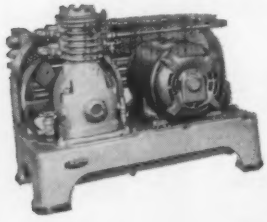
YEAR 'ROUND USE Provides summer cooling and dehumidification, all-year ventilation and filtration, and can be used for winter service with heating coil and humidifier.

EASY TO INSTALL, TO SERVICE Entirely self-contained, unit is easily installed, can be moved to new location with other fixtures. Servicing is simplified — all controls, valves and parts are readily accessible.



MANY ECONOMY FEATURES Has permanent, cleanable air filter — heavy-duty Lipman compressor that keeps working, gives more cooling per kilowatt of power — cleanable, counter-flow condenser to provide low operating pressure and high efficiency for low cooling water consumption.

COMPLETE GR AIR CONDITIONING LINE includes the duct-type Model 10-4000 above, and the Model 301 condensing unit below.

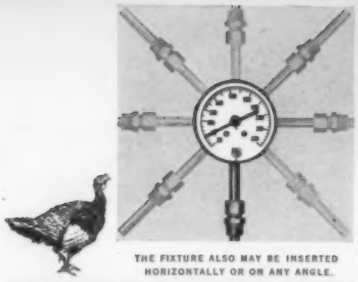


LOOKS WELL ANYWHERE Attractive cabinet has smooth, neutral finish, is easily cleaned — rust-resistant sheet steel construction — cabinet lined with ½-in. rigid sound deadening insulation.

CONVENIENT, CONCEALED CONTROLS Placed under hinged name plate on front of cabinet, convenient but hidden.

Send for literature on these new GR self-contained air conditioners. Ask also for full information on the complete General Refrigeration air conditioning and Lipman refrigeration lines — the advantages in handling them, the rich market potentialities. Write today to Dept. R12.

GENERAL REFRIGERATION
DIVISION
GR AIR CONDITIONING WITH LIPMAN COMPRESSOR
YATES-AMERICAN MACHINE CO.
Beloit, Wisconsin
Lipman AUTOMATIC REFRIGERATION



THE FIXTURE ALSO MAY BE INSERTED HORIZONTALLY OR ON ANY ANGLE.

We wrung its neck 15,000 times

The heart of the AMERICAN Every Angle Dial Thermometer is its neck—a paradoxical but picturesquely true description. For the astonishing neck can be moved and turned a full 180 degrees on two axes to face exactly where you want it for easiest reading.

Does continual moving hurt the "neck"? Not unless you move it more than 15,000 times, for one long-suffering model endured this cruel punishment.

How easily you can install the Every Angle on irregularly shaped tanks, boilers or other equipment! Insert the thermometer and turn its face wherever you want it. It is adaptable to all types and shapes of process equipment.

With this unique feature, you are also sure of enduring accuracy—a quality of all AMERICAN Thermometers.

American Glass, Dial and Recording Thermometers are sold by leading distributors everywhere. Write to them or to us for information

AMERICAN
Industrial Instruments
A Product of
MANNING, MAXWELL & MOORE, INC.
BRIDGEPORT 2, CONNECTICUT

Makers of 'American' Industrial Instruments, Hancock Valves, Ashcroft Gauges, Consolidated Safety and Relief Valves. Builders of 'Shaw-Box' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties.



IDEAL "Thermo-Grip"

INSTANT-HEAT soldering tools

The simplest, safest and by far the fastest way to make sweat fittings or do any other kind of soldering or brazing job. *Better*, too—permits full adhesion of solder. Works on electrical resistance-heating principle. Concentrates heat under instant control. Heats 1" copper tubing to soldering temperature in less than 1 minute! *Easier*—pliers grip the work as they heat it, leaving other hand free to handle solder. No fire hazard, no danger. Current is reduced to harmless low voltage. Complete "Thermo-Grip" includes Power Unit, Leads, Switch and one or more attachments.



1000 Watt Unit with "Pliers". "Fork" and "Pencil" attachments also available.

FOR FREE DEMONSTRATION SEE YOUR LOCAL IDEAL DISTRIBUTOR

IDEAL INDUSTRIES, Inc.
Sycamore, Illinois
Canadian Distributor:
Irving Smith, Ltd., Montreal

CARRIER CORP. is releasing a new 16mm sound motion picture in color dramatizing the functions and benefits of air conditioning in the home, in commerce and in industry.

Entitled "Service Unseen," the 22-minute film covers the history of "man-made weather" from the development of the principles of air conditioning to its present state of widespread usefulness. The film also demonstrates the application of comfort air conditioning in hotels, restaurants, retail stores of all types, trains, ships and busses, and through room air conditioners in homes and offices.

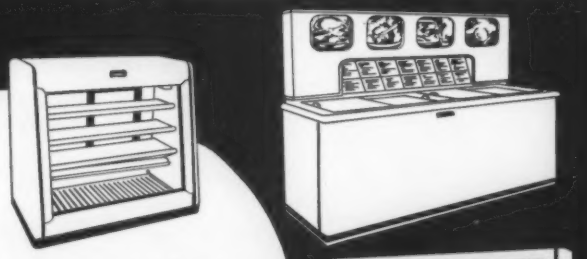
"Service Unseen" is being distributed nationally by Castle Films, 445 Park Ave., New York, and prints are available without charge for showings by organized groups.

HANDLES HALDORF

Thermo-Temp Equipment Corp., 899 First Ave., New York City, has been named to represent Haldorf Mfg. Co., Philadelphia manufacturer of frozen food merchandising cabinets, in the metropolitan New York area. Maurice H. Spivak is president of Thermo-Temp.

BUY FROM YOUR REFRIGERATION WHOLESALER

Styled to Sell **PRICED FOR PROFIT!**



Out in front in styling. . . . Out in front in beauty . . . Out in front with features . . . COLDIN'S famous line of Dairy Wall Cases, Full Vision Display Cases, Three Dimensional COLOR-VISION Freezers and Formica Counter Top—Triple Duty Display Cases: Self-Contained or Remote.

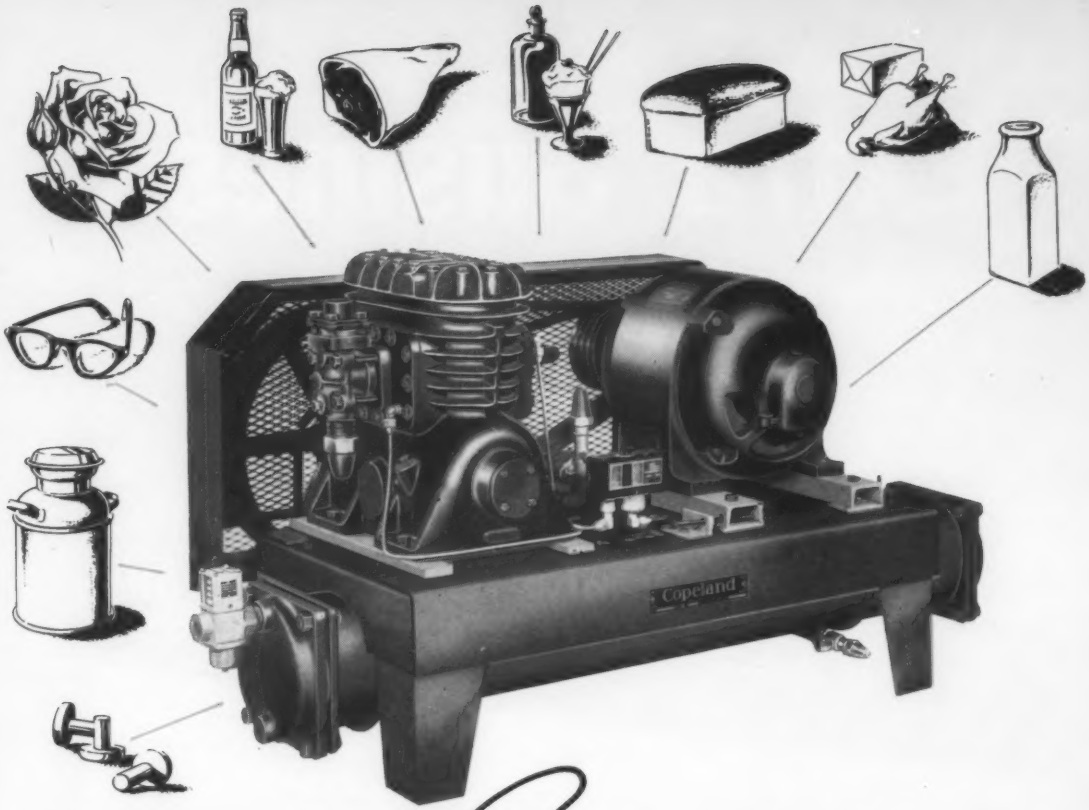
Write for illustrated literature and specifications.

SEVERAL DISTRIBUTORSHIPS OPEN



COLD-IN
YOUR KEY TO BETTER REFRIGERATION

COLDIN CABINET CO., Inc.
2800 Webster Avenue, Bronx 58, N. Y.

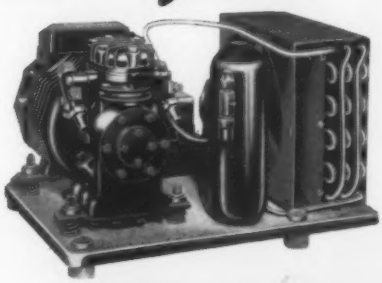


PROSPECTS ARE GOOD *And plentiful*

. . . WHEN YOU SELL

Copeland
DEPENDABLE *Electric* REFRIGERATION

Locker plants, dairies, florists, taverns and soda fountains are among the good prospects when you sell Copeland. It's the unit line that meets every need better. You sell Copeland with confidence because Copeland units give dependable performance.



COPELAMETIC

The Accessible Hermetic

Famous Copelametic combines all the best features of open and welded-in units, provides unusual compactness, sturdiness, long life and economy. Another great Copeland development to advance refrigeration!

1/6 H.P. to 7½ H.P.

COPELAND REFRIGERATION CORPORATION · SIDNEY, OHIO

Manufacturers of

REFRIGERATION UNITS (OPEN-TYPE AND COPELAMETIC), WATER COOLERS, REFRIGERATORS

Extra Business For You

Service Engineers, Dealers and Distributors do more business with Texaco Capella Oils

PUT *Texaco Capella Oil* in a refrigerating compressor and you assure freedom from carbon and gummy sludge, avoid reaction with refrigerants. The compressor runs efficiently, the whole system stays clean. These are benefits that satisfy customers, bring extra business to service engineers, dealers and distributors.

Whatever the type or size of compressor, there is a *Texaco Capella Oil* of suitable viscosity to assure its best performance. All *Texaco Capella Oils* are highly refined, exceptionally stable, moisture-free. All have low pour tests. *Sealed* containers (1-qt., 1-gal. and 5-gal.) protect their purity.

Leading compressor manufacturers give *Texaco Capella Oils* their full approval. Use these outstanding lubricants to build your compressor oil business.

The Texas Company, 135 East 42nd Street, New York 17, N. Y.

FREE LUBRICATION GUIDE—Latest edition. Lists makes and types of compressors and refrigerants used in 64 Electric Refrigerating Units and 39 Air Conditioning Units. Shows recommended grade of Texaco Capella Oil for each. Use guide as wall chart, or bind into service manual.



TEXACO Capella Oils

FOR ALL AIR CONDITIONING AND REFRIGERATING EQUIPMENT

TEXACO

Tune in...TEXACO STAR THEATRE presents MILTON BERLE every Wednesday night. METROPOLITAN OPERA broadcasts every Saturday afternoon.

THE PRACTICAL Refrigeration Applications MANUAL... by Harold Smith

THE Practical Refrigeration Applications Manual, which will appear in this space each month as the successor to The Practical Refrigeration Engineering Manual, is intended to answer the needs of those refrigeration and air conditioning men who may from time to time encounter field engineering problems too tough for them to handle. We urge all such readers to submit these problems to us. Each letter of inquiry will be answered personally by the author of this series, who will give the writer the benefit of his long and varied experience by providing an analysis of each problem submitted and by offering his recommendations for its solution. Those problems which appear to have the widest reader interest will be published in these columns from month to month. All questions or problems should be clearly and completely stated, with all facts, figures, and additional information needed for an adequate analysis of the situation. Address your problems to: The Refrigeration Industry, Manual Dept., 1240 Ontario St., Cleveland 13, Ohio.

PROBLEM

"WE HAVE a refrigeration job in a local saloon which is giving us trouble with warm beer.

"When serving a heavy trade the beer runs warm after ten or twelve beers are drawn. We are unable to adjust the job to eliminate this condition. We have plenty of refrigeration equipment to do the work, but continue to have this trouble on and off.

"The barrels are set in a cool basement. Two are tapped at a time with two or four in reserve.

"At the bar there is a draft box with a refrigeration coil consisting of about 50 feet of ½-inch tubing, and two block tin beer lines of 50 feet each. A water bath is used. The expansion valve is in this box.

"When we set the job colder the water bath freezes up. We try to keep the water bath at around 36F, but can't seem to hold this temperature.

"The condensing unit is operated by a low temperature control.

"What would you recommend that we do to get this beer to run cold when served fast, without the water bath freezing up?"

SOLUTION

AN INSTALLATION for the refrigeration of draft beer such as you describe is definitely inadequate for a regular business operation. Installations of this type work out reasonably satisfactorily for special occasions on a temporary basis, but not for regular business purposes.

It is next to impossible to remove all the heat from the beer while it is passing through a water bath in a dispenser. Additional pre-cooling equipment is needed as a solution to your problem.

You did not give us the size of the condensing unit you are using. We assume it is large enough to balance the capacity of the coil in the water bath, as you say the temperature can be lowered to bring the water bath to a freezing point. This seems to indicate that the condensing unit will handle all the heat which can be picked up by the tubing coil in the water bath.

CONDITIONS ARE ASSUMED

Let's assume that the beer is to be drawn at a 40F temperature. Also we shall assume that the average cellar temperature where the barrels are tapped is 70F, which is a low average temperature for most cellars in your section of the country.

The beer probably arrives at the saloon at a temperature of approximately 40F. Placed in the cellar, it slowly warms up to the cellar temperature of 70F.

The beer lines running up to the dispenser are also at least 70F in the basement, and probably 80F from the first floor to the dispenser.

GAS PRESSURE INCREASES

As beer warms up its gases increase their pressure, agitating the beer and making it wild. If CO_2 gas is used as a vehicle for moving the beer this adds to the action of the beer and further increases the pressure, resulting in warm, unsatisfactory beer being served.

This problem involves cooling 70F beer to 40F beer while passing through a 50-foot block tin beer coil lying in a 36F water bath. In my opinion, this would be an impossible task with the equipment you have used.

CORRECTIVE MEASURES CITED

Such an installation with a minimum of equipment is always going to be more or less unsatisfactory. When the weather is cold and beer is drawn only at infrequent intervals the beer temperature may be satisfactory. Under heavier service, however, warm beer is going to be served unless additional equipment is used to assist in the cooling process.

The first corrective measure would be to sell and install a beer precooler to refrigerate the barrels of beer in the basement. This precooler should be large enough to hold the two barrels on tap or better yet of course, large enough to hold all the barrels on hand, probably 6 to 8 barrels in all.

Equipped with a blower coil, this precooler can be held at 40F, holding the beer at all times at the desired drinking temperature.

Beer standing in the beer lines between the precooler and the dispenser will warm up slightly during idle serving periods. However, the coils in the dispenser will remove this heat

as the beer circulates through these coils while being drawn for service.

To further assure cold beer at the draw, with the minimum amount of heat to be removed in the dispenser, it may be advisable to insulate the beer tubing lines from the point where they leave the precooler up to the dispenser. This can be done by wrapping the lines with hair felt or other insulating materials. Some contractors use an insulated duct from precooler to dispenser, running the beer lines inside the duct.

The additional equipment suggested probably will require a larger condensing unit on this installation. However, with good insulation the present condensing unit may be large enough to handle the load.

PRECOOLER CUTS LOAD

Should a well insulated precooler be used the refrigeration load will not be great. A ½-hp, or at most a ¾-hp, air cooled condensing unit should be entirely adequate to handle such an installation.

The important point to consider is that a good installation provides a uniform temperature of the beer when drawn, whether the service is heavy or light. The only sure means by which this can be accomplished is to provide cooling equipment which will enable the saloon to hold the beer at approximately the draft temperatures at all stages of storage and drawing. If this is done the water bath in the dispenser is only required to remove a relatively few degrees of heat picked up betwen the precooler and the dispenser.

Please write again giving additional information if you need additional recommendations on this installation.

WINS BENDING CONTEST

Roy Helminski, refrigeration service manager of Kroger Co., Toledo, won the tube bending contest sponsored by Imperial Brass Mfg. Co. at the January meeting of the Greater Toledo Chapter of R.S.E.S. Charles Askey, student at Commercial School, was second, and F. Gouittere, service man for Kroger, was third. All materials used in the contest, as well as the prizes, were supplied by Imperial, and Mike Mitchell, of that company, assisted at the proceedings.

WINS JOBBER CONTEST

A. T. Smith of Refrigeration & Equipment Co., Little Rock, Ark., has been awarded $50 for submitting the winning name. "Thermo-Memo", for the new house organ to be circulated to its customers by Chase Refrigeration Supply Co., Chicago.

Manual Readers Offer Help On Florist Cooler Problem

REFRIGERATION INDUSTRY

Attention, Manual Editor

This is in reference to a service problem on a florist storage cooler, printed in the January 1949 issue of your magazine.

The trouble experienced by this gentleman parallels almost exactly those which we had on a florist cooler installed a little over a year ago.

In our instance, the flowers, such as orchids, roses and gardenias, would develop rust spots after three or four days storage, being held at approximately 44 F.

In this cooler, two slow velocity blowers were being used, with the machine operating 8 hours out of 24, relative humidity being 90%. According to our scale, the dry bulb reading of 49 F and wet bulb reading of 48 F shown by the gentleman having this trouble shows a relative humidity of 92%.

Our trouble was remedied completely by shorting out one coil by removing the thermal valve element from the suction line and placing it again on the coil, three passes away from the thermal valve. This cut the capacity of the coil down to 25% of its former capacity, but still left the full advantage of air circulation, which brought the relative humidity down to 80-82%.

It has been the experience here that light and light reflection, would not effect the flowers materially, having used white gloss and white porcelain walls, with incandescent and fluorescent lights, with high intensity light for display purposes.

We feel quite confident that if the effective coil area in this room is reduced, lowering the relative humidity, the trouble will be remedied.

Hoping this information will be of help to our friend in need, we remain,

William Vogel
Coastal Refrigeration Co.
Chehalis, Washington

REFRIGERATION INDUSTRY

Attention, Manual Editor

In regard to the problem discussed in the Practical Refrigeration Applications section of your January issue, I should like to make the following suggestion. Due to the start already attained by this fern mold, it may be practical and necessary to completely clean out and fumigate this florist's cooler, inasmuch as once these mold spores have gained a foothold they are apt to spread all over the cooler.

At least I have found it true in the meat industry that once the mold begins to form on fresh or cured meats the spores have to be killed out by fumigation or by some other means before satisfactory operation of the cooler can be expected.

I've spent twenty years in meat markets and I have found that one very effective way of cleaning out the mold infected cooler is to scrub the walls and floors with B-K powder or a strong Clorox solution, and by spraying the ceiling with a similar mixture.

Yours for better service.

Frank Dill,
Broken Arrow, Okla.

BIDS RECEIVED FOR TAMPA HOSPITAL JOB

Bids for rehabilitating the Tampa (Fla.) Municipal Hospital's run-down refrigeration system were opened in Mayor Hixon's office recently, but they were so varied in portions bid on that an apparent low bidder was not immediately determined.

The three bids received were turned over to J. C. Moxley, consulting engineer employed by the city, for tabulation.

Bids received were from:

Market Equipment Co., Tampa, $4,750, on six reach-in boxes varying in size from 20- cu. ft. capacity to 65-cu. ft., three small refrigerators, and a water cooler. The bid price did not include motors for the equipment.

Krause Heating and Ventilating Co., St. Petersburg, $26,208 for the above equipment plus motors, and repairing and replacing insulation, doors, lighting system, coils, compressors and other parts of the hospital's big walk-in cold storage boxes.

Old-Waring Co., Tampa, $5,279 for reach-in and small refrigerators and $17,812 for rehabilitation work on the larger walk-in boxes.

BUY FROM YOUR REFRIGERATION WHOLESALER

SOFT and DRY DRYSEAL TUBE



. . . WITH *MECHANICAL* END SEAL

REVERE Dryseal Copper Refrigeration Tube is uniformly soft, so that you can bend it easily . . . and it won't split at the ends when flared. It has a new type of mechanical end seal that *permanently* keeps the interior of the tube clean and dry; and the seal is compact enough to pass through any opening large enough for the tube itself. In addition, Revere Dryseal is made to new, more economical dimensional standards. And it comes to you in a new package that protects the tube, keeps it bright and clean, and is readily identifiable in stock.

Revere Dryseal Tube comes in sizes from ⅛" to ¾" O.D., and is packed two 50-foot coils to a package.

Next time you buy refrigeration tube, ask your Revere Distributor for Revere Dryseal—the easy-to-bend copper refrigeration tube that assures you of fine quality in every length you buy.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, New York

• • •

Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; New Bedford, Mass.; Rome, N. Y.—Sales Offices in Principal Cities, Distributors Everywhere.



Suitable for shop or service truck

GILMER #355 V-Belt Assortment

Here's the foundation of a complete V-Belt department—in minimum space—with minimum investment. Records show these 50 refrigerator belts are the ones ordered most frequently . . . tallied most often on Gilmer sales records.

Included with this assortment are valuable merchandising aids listed at right—aids to speed servicing . . . to assure accurately fitted replacements of V-Belts.

Gilmer V-Belts are noted for firm grip, steady pulling power. Their heavy-duty jackets and stretch-controlled cords last longer in the *start* and *stop* wear of fast-moving small drives. Remember, Gilmer has the PULL. Order the #355 Assortment *today*.

Gilmer BELTS

ASSORTMENT #355 CONSISTS OF

1. 50 V-Belts in 31 most popular sizes
2. 8-hook Metal Wall Rack
3. Gilmer Handimeter (patented) for quick measuring of belts
4. Gilmer V-Belt Catalogue, "America's Belt Bible"
5. Inventory Card
6. Attractive Window Display Card

Buy Through Your Gilmer Distributor

L. H. GILMER COMPANY, Tacony, Philadelphia 35, Pa.

Division of United States Rubber Company

COMMERCIAL SALES . . .

Continued from page 40

portant factors govern effective cooling of fresh fruits and vegetables in the retail store. "Although the installation should be designed for proper balance between the cooling units and compressors to maintain a small temperature difference," he explained, "superior results are best obtained by 'over-coiling' the job. A second point to remember," he declared, "is that such produce installations should be made without baffles or drip pans. By adjusting the system to defrost on each cycle, moisture will drip onto the produce and materially aid in keeping it fresh.

"It is recognized that forced air cooling units provide superior performance for many types of applications. For example, forced air is particularly effective for meat chill rooms, pre-cooling operations and similar problems where it is necessary to quickly remove heat from the product. Then too, forced air cooling units provide an excellent answer for large storage rooms," Hayner added. "However, as these tests indicate, proper gravity coiling is preferable for bulk storage of fruits and vegetables in small walk-in coolers."

THE five basic aspects of store modernization are included in an illustrated book of the 1948 Store Modernization Show's Clinics now available, according to an announcement made by John W. H. Evans, managing director. The highly informative Clinic discussions by America's top experts on store modernization provide the material for the volume, "1948 Store Modernization Clinics."

Including five chapters, "Store Layout and Traffic," "Store Lighting and Color," "Displays and Fixturing," "Store Fronts," and "Planning and Budgeting for Modernization," the book reveals complete details of the 1948 trends by the leading authorities in the field. Illustrations to accompany the text of the volume have been selected from the slides, diagrams and photographs used by the speakers.

In addition to the illustrated text the volume contains the popular Question and Answer Forums in which the panels of experts answered retailers' practical questions from the floor.

The book may be ordered for five dollars from the Store Modernization Show, 40 East 49th St., New York 17, New York.

COAST CONTRACTORS NAME RALPH MANNS PRESIDENT

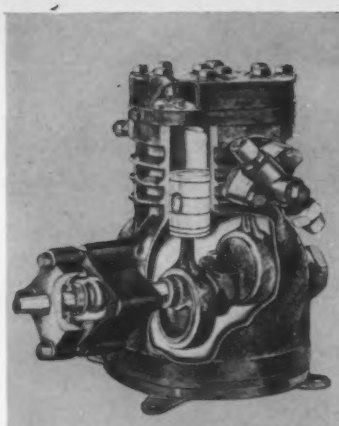
Directors of the Refrigeration Contractors Association of Los Angeles, at their first 1949 meeting, elected Ralph Manns of Wilmington, Calif., as their president for the year. Other officers include Hal Crumly, Pomona, vice president, and Ralph M. Westcott, Los Angeles, secretary-treasurer. Neal S. Templin continues as executive secretary.

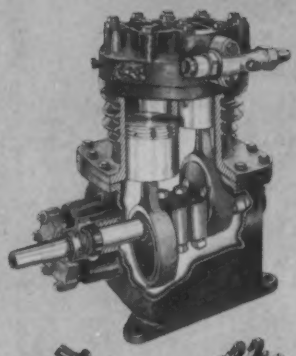
Other directors of the group for 1949 include Stewart Archibald, Robert N. Gay, Charles E. Hollingsworth, L. P. Jacobsen, and Dale J. Missimer, all of Los Angeles, and Haskell Neel, Long Beach.

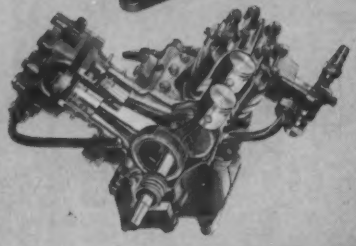
HEADS PROGRAM GROUP

The National Credit Men's Association has announced the appointment of C. G. Klock of General Electric Co.'s air conditioning department as program chairman of the plumbing, heating, refrigeration and air conditioning section for the NACM national convention in Atlantic City, May 15 to 19.









—here's one reason why Lehigh BLU-COLD is forging ahead.

The construction and design features of the three compressor bodies illustrated are basic to the LEHIGH line. From these and similar pumps are made models with capacities from 840 BTU to 70,000 BTU per hour. The valve plates, gaskets, seals, eccentrics and pistons of these bodies are interchangeable. Inventory is reduced to a minimum. Actually, a $25 investment allows a dealer to carry seals, valve plates and gaskets for the ENTIRE Lehigh BLU-COLD line. And it follows equally, that the service problem is just as simple as the parts problem.

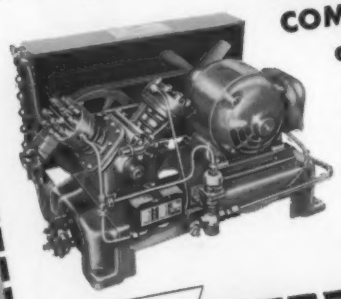
You can't beat that—and you are missing plenty if you are not selling BLU-COLD.

Now Available

★ PACKAGED AIR COOLED—1/4, 1/3, 1/2 H.P. ★ HEAVY DUTY AIR COOLED—1/3, 1/2, 3/4, 1, 1-1/2, 2 H.P. ★ STANDARD DUTY AIR COOLED—1/3, 1/2, 3/4 H.P. ★ HEAVY DUTY WATER COOLED —1/2, 3/4, 1, 1-1/2, 2, 3, 5 H.P. *for High, Medium, Low Temperature, Freon 12 or Methyl Chloride. Units for special applications in all capacities.*

HERE'S A UNIT THAT'S GOING PLACES!

Lehigh **BLU-COLD COMBINATION AIR and WATER COOLED**



Your education is incomplete without the facts about this really amazing unit. Ask us for special data sheets and a summary of current field experience which is now being prepared.

Immediate delivery in several capacities

Lehigh **BLU-COLD** COMMERCIAL REFRIGERATION

A postcard will bring you our new CONDENSED SERVICE MANUAL & PARTS LIST. Place your name on our mailing list and keep up to date on important Lehigh developments.

Lehigh Manufacturing Co.

LANCASTER, PENNA.

LETTERS

Who's Right?

THE REFRIGERATION INDUSTRY:

This letter is written to you with respect to the letter on page 16 of the December 1948 edition of THE REFRIGERATION INDUSTRY in reference to "Effect of Expansion Valve Questioned by Reader."

I wsih to state that I seriously disagree with your explanation of the purpose and use of an expansion valve.

The purpose of an automatic expansion valve is to maintain a constant super-heat in the evaporator, or low-pressure side of the system. By thus maintaining this constant super-heat, the liquid refrigerant level is maintained at a fixed position in the evaporator.

Changing the super-heat setting of the expansion valve, merely changes the liquid level position in the evaporator. The lower the super-heat is maintained, the higher will be the liquid level maintained in the evaporator. The higher the liquid level is maintained, the more efficient will be the evaporator surface. The reason for this is that evaporating surface has a higher heat transfer in boiling than in vapor.

Also, the automatic expansion valve does not have anything to do with the control of the evaporative temperature. This temperature depends only on the temperature and rate of flow of the liquid or gas being cooled. The only way that the temperature can be controlled in the evaporator, is by means of a back pressure valve on the suction side of the compressor. This back pressure valve will maintain a minimum temperature desired in the evaporator. This evaporator temperature can, of course, also be regulated by means of a low-pressure switch on the compressor.

I would very much appreciate knowing whether you will publish the above letter.—Harold Nickelsporn, chief engineer, Kol-Flo-Kooler Co., Bayonne, N. J.

Cooling for Dress Factories Seems "Hot" Subject

THE REFRIGERATION INDUSTRY:

We would like to secure about two dozen reprints of the article entitled "No Sweat Shop Here", which appeared in the August issue of your publication.

If reprints are available, kindly send them, and your billing, to the attention of the writer.—S. B. Garland, Mgr. Refrigeration & Air Conditioning Div., Lincoln & Lane Co., Pawtucket, R. I.

We appreciate your interest in the article entitled "No Sweat Shop Here" which appeared in our August issue. While several refrigeration firms already have ordered reprints of this article for their own use we do not have any of these in stock here, and so the best that we can do for you is to send you two dozen copies of the complete August issue.—Editor



you're all set...

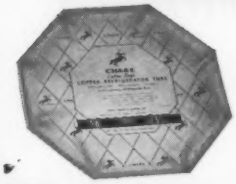
HERE'S the Copper Refrigerator Service Tube that's EXTRA SOFT!



THIS *extra soft* tube is easily worked. New, uniform temper makes it easy to bend and flare. It is given automatically controlled anneal which assures clean, bright, oxide-free tube. New end seal keeps tube clean. Fits anywhere tube does—need not be removed until ready for fitting connection. Sizes ⅛" to ¾" diameters; in 50' standard lengths.

CHASE

...HERE'S the octagonal package that's EXTRA HANDY!



THIS *extra handy* package prevents two-layer coil of tube from shifting—maximum protection with minimum weight. Saves shelf space. May be *reused* for keeping cut coils clean and identified. Specifications are easily read on a large size label.

CHASE

...HERE'S a typical Chase Wrought Copper Fitting for joints that are EXTRA TIGHT!



CHASE Wrought Copper Fittings expand and contract with the tube . . . joints are permanently tight! They fit the tube *accurately*—there are no inside ridges to hamper refrigerant flow.

CHASE

ASK your parts distributor for Chase Extra Soft Copper Refrigerator Tube in the extra handy package. And be sure to specify Chase Wrought Copper Fittings...they're not affected by ordinary vibration or pressure. That's the combination for better, longer-lasting connections.

Chase

the Nation's Headquarters for
BRASS & COPPER

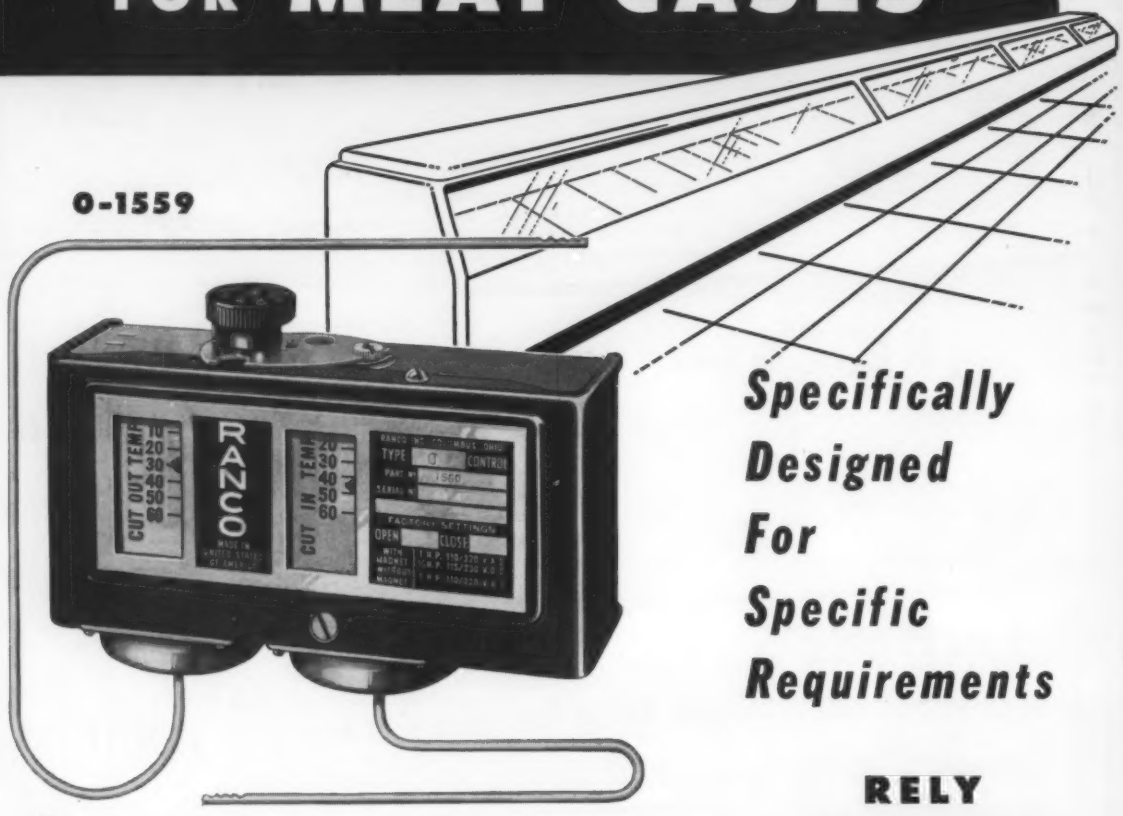
WATERBURY 91, CONNECTICUT

SUBSIDIARY OF KENNECOTT COPPER CORPORATION

THIS IS THE CHASE NETWORK . . . *handiest way to buy brass*

ALBANY† ATLANTA BALTIMORE BOSTON CHICAGO CINCINNATI CLEVELAND DETROIT HOUSTON† INDIANAPOLIS KANSAS CITY, MO. LOS ANGELES MILWAUKEE MINNEAPOLIS NEWARK NEW ORLEANS NEW YORK PHILADELPHIA PITTSBURGH PROVIDENCE ROCHESTER† SAN FRANCISCO SEATTLE ST. LOUIS WATERBURY (†Indicates Sales Office Only)

Ranco CONTROLS FOR MEAT CASES



Specifically Designed For Specific Requirements

Regardless of the weather or load conditions Ranco's "All-Weather" Type 0-1559 Control assures uniform fixture temperature and uniform relative high humidity in meat cases and other similar range fixtures such as walk-in coolers and florist boxes.

The control cuts in only when the coil is defrosted and cuts out only when a pre-determined refrigeration temperature of the fixture has been reached. Completely automatic defrosting, regardless of weather or load conditions or cold location of the compressor, helps maintain uniform relative high humidity.

This control automatically changes its differential to suit the load of each running cycle. In natural convection installations it provides rapid air circulation during periods of heavy load and moderates to a gentle flow during light load periods.

Also adaptable for meat cases are Ranco's Air Temperature Application Controls, Type 0-1415 and 0-1418. Your Ranco wholesaler can tell you more about these Ranco special application controls. Ask him to show you the complete line of Ranco Controls—controls engineered for every type of commercial or household refrigeration unit.

RELY ON RANCO

- *Specialists in Refrigeration*
- *Leaders in Design Development for Over 20 Years*
- *20,000,000 Controls Now in Use—More Than Any Other Make*
- *Dependably Accurate and Trouble-Free*
- *Greater Customer Satisfaction*
- *More Profit for You*

Ranco Inc.
COLUMBUS 1, OHIO

World's Largest Manufacturers of **REFRIGERATION CONTROLS**

Here's how

Edited by
Warren W. Farr

Save a Life!

The continued loss of life of small children caused by suffocation in old refrigerators seems to be on the increase.

These deaths have been caused by sheer neglect. The responsibility for such neglect rests on the shoulders of everyone who is responsible for leaving old refrigerators at the back of a store, or in some other unwatched spot, with doors open.

Reach-ins, walk-ins, and meat cases with snap catches on their doors all are death traps, because when children at play open these doors and crawl inside there is no possible way for them to get out if the doors swing shut.

It is extremely important, therefore, that any discarded refrigerators which may be left in readily accessible spots have their doors either *nailed shut or removed entirely!*

Just remember—it might be YOUR child!

What Causes Failure of Condenser Start Motors?

The life of an electric motor depends to a large degree upon the maintenance and care it receives from the servicemen and the user. A motor will not run indefinitely without reasonable care and proper adjustment by a serviceman fully qualified to determine apparent cause of motor failure.

In the case of condenser start motors, some of the most common causes of failure are listed in the following paragraphs:

1. *Bearings Worn:* Check for worn bearings by removing belt from motor pulley. Then hold pulley and move back and forward parallel to belt drive. Also move shaft up and down in event of gravity wear in bearings.

2. *Switch Open or Contacts Burned:* Motor will not start when switch is open. If contacts are burned, considerable sparking will develop in switch when motor attempts to start.

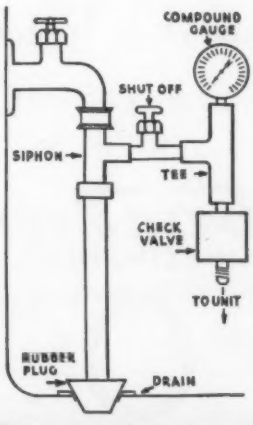
3. *Condenser Open or Shorted:* Motor will not start if condenser is open, being connected in series with the starting winding. A shorted condenser will blow fuses or open relay, this being caused by high current draw through the motor windings. If the motor appears to have condenser trouble, remove and install a replacement condenser.

FACED with the problem of evacuating Norge Rollators in the house, and wishing to avoid the customary hazards of sulphur in the room, dead lawns, and personal inconvenience, we made use of the device shown in the attached sketch. The basis of our evacuator is a washing machine tub draining device. The particular one used was manufactured by Central Rubber Products Co., but any one on the market can be used.

The hose leading to the washing machine was removed and the hole in the stud tapped with a ⅛-inch female pipe tap. A small needle valve shutoff was installed in the stud, and beyond the shutoff a tee was placed. One end of the tee holds a compound gauge (30 inches vacuum to 150 pounds pressure is sufficient) and the other end holds a check valve. The purpose of the check valve is to prevent water backing into the machine in case of a faulty sink drain.

To use the evacuator, we proceed in this order:

The evacuator is attached to a cold water faucet; the siphon arrangement is equipped with adapters so that it may be attached to smooth as well as threaded faucets.



The tapered rubber plug is firmly pushed into the sink drain—important only on SO_2 machines.

The purge line from the machine is attached to the free end of the check valve assembly.

The shutoff on the evacuator, and the shutoff (back seat) of the unit to be purged off, are shut off.

Turn on the water full force, and check to see that the sink drain will carry it away without flooding back.

Having made sure of the water flow, open the evacuator shutoff. We have found that in our city the water pressure is sufficient to produce 26 inches vacuum on the gauge.

When the gauge shows a reasonably steady vacuum, open the unit shutoff and proceed with the required purging.

The check valve will prevent water from getting into the purge tube in the event of a drain stoppage. We usually follow up a sulphur purging with a treatment of Drano or a similar compound to neutralize any acid formation in the plumbing.

Altho this idea was fostered by Norge peculiarities it can be used for any purging job, and pulls ample vacuum for Grunow work, and even evacuating systems before charging. It should be pointed out that the vacuum limitations render the device unsuitable for dehydration applications, however.

Russell P. Wilson, Worcester, Mass.

***(Editor's Note:* For those who have no desire to improvise their own equipment, there are many commercially produced hydraulic syphons on the market.)**

3 REASONS WHY
Eston
REFRIGERANTS
ARE BETTER!







Years of use in all types of refrigeration equipment have established Eston refrigerants as the favorite of servicemen. Eston wholesalers are conveniently located. Write for information today.

Distributors of
FREON 11-12-22-113-114

Eston
CHEMICALS, INC.
3100 East 26th Street
Los Angeles 23, California

Other condenser start motor failures are similar to those commonly found in repulsion-induction motors (such as shorted, open, or grounded stator) and can be checked in the same way. The rotor being of the solid type, however, does not cause the same troubles as the wound type of rotor used in the repulsion-induction motor.

VIRGINIA RSES TO MEET DURING MARCH

The Virginia State Association of Refrigeration Service Engineers Society will hold its annual convention in Roanoke on March 19, reports Ralph W. Lampie, secretary-treasurer. The association now comprises 200 members from Richmond, Norfolk, Newport News and Roanoke R.S.E.S.

Officers are: George A. Holder, Lynchburg, president; R. H. Israel, Norfolk, vice president; Lampie, of Richmond, secretary-treasurer; and Robert Templeton, Roanoke, sergeant at arms.

BUY FROM YOUR REFRIGERATION WHOLESALER

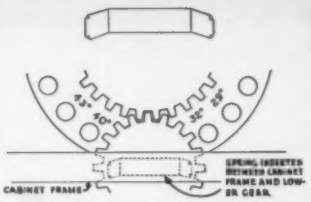
FIRST
in the field...
JARROW PRODUCTS
NEW
*SPEED-ANGLE
CHARGING HOSE



*NAME COPYRIGHTED

Speeds up charging and purging. No Flexing necessary. Hose life is prolonged by eliminating sharp "right-angle" bends. Gaskets cannot blow out.

JARROW PRODUCTS
420 N. LA SALLE ST. CHICAGO 10, ILLINOIS



I HAVE had a good many complaints from customers who were annoyed by the rattling noise of the plastic gears on the Westinghouse "True-Temp" control which was used on the household refrigerator models produced by that company in 1940, 1941, 1946, and part of 1947.

After much difficulty I finally found a satisfactory way of correcting this condition permanently. Here is the way I do it.

I use a piece of banding metal, such as is used in banding packages for shipping. The banding I use is about 5/8 or 7/8 of an inch wide. I cut a piece about 2 inches long and bend it as indicated in the sketch below.

I turn each corner up slightly to keep the spring from slipping after being put in place. Then I insert this improvised spring between the cabinet frame and the lower gear, into which the control shaft fits, so that it exerts a slight pressure on the gears. Removing the vegetable bin makes this control more readily accessible and facilitates installation of the spring.

Ross L. Baade, Huron, S. D.

HAJOCA CORP. OCCUPIES NEW FLA. QUARTERS

Hajoca Corp., manufacturer and wholesaler of refrigeration, plumbing, heating, and industrial supplies, has announced opening of its thoroughly modern, block square, office and warehouse building at 929 East Bay Street, Jacksonville, Fla.

These new and larger quarters will permit the expansion of its 27-year-old Jacksonville branch. Already refrigeration supplies and parts have been added to its complete stock of plumbing, heating, and industrial supplies.

Covering a square city block, this modern structure has over 37,000 square feet of floor space, plus an ample storage and loading yard. Radiant heating, fluorescent lighting, acoustical ceilings and scientific ventilation are just a few of the building's outstanding features.

Both Georgia and Florida zone offices and Jacksonville branch offices are housed in this building.

OPPORTUNITIES

Classified Advertising Section

Rates: for "Positions Wanted", $3.50 minimum, limit 25 words. For all other classifications, $4.00 minimum for 25 words, each additional word 15c; boldface type or all capitals, $7.50 minimum for 25 words, each additional word 20c; limit 50 words. Box addresses count as five words.

BUSINESS OPPORTUNITIES

Refrigeration service business for sale that netted over $5,000 last year. Arizona town of 10,000 population. Details on request. Box 3149, Refrigeration Industry.

POSITIONS WANTED

Selected group of men, graduates of well-known trade school, desire employment in Refrigeration Field. Will travel anywhere. Qualified in domestic and commercial refrigeration. Reliable. Contact Placement Dept., Eastern Technical School, 888 Purchase Street, New Bedford, Mass.

FOR SALE

Stop Terminal Leaks in Crosley Sealed Units by using the Jiffy Terminal. Easy to install, no special tools needed, can be installed in a few minutes without removing unit from cabinet. Set of three terminals. $4.00 or see your jobber. Detroit-Sealed-in Parts Co., 19191 Rogge, Detroit 12, Mich.

FOR SALE—Air-cooled and Water-cooled remanufactured condensing units, ¼ up to 2 H.P. Write for particulars, Edison Cooling Corp., 310 East 149 St., Bronx 51, N. Y.

16 cubic ft. freezer cabinets, 4 cubic ft. domestic refrigerators. Rathbun Refrigeration Company, 325 Scribner Avenue, N. W. Grand Rapids 4, Michigan.

EASY WAY TO FIT CARBON VANES IN ROTOR SLOTS OF COLDSPOT COMPRESSORS. Send today for FREE illustrated leaflet. Lists thickness of blades available, tells in 3 simple steps how to prepare vanes for perfect fit every time. New 4 page folder shows complete line of parts at rock bottom prices; also special tools. Write BEIL & CO., 501 S. Filmore, Kirkwood, Mo.

EXCEPTIONAL BARGAIN: One brand new X5 McQuay blast freezer, five ton capacity, for $550 f.o.b. Statesboro, Ga. Lists for $1958. Phone 570-L. Rocker Appliance Co., Statesboro, Ga.

MARINE SERVICE STATIONS LISTED

The Carrier World-Wide Marine Service Directory, a booklet listing all Carrier representatives equipped to render marine service, has just been published by the company's International Division in New York City. Representatives located at or near seaports, as well as the Marine Department's U. S. service stations are listed by name and address.

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